Math Teachers Press, Inc.

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UTAH MATHEMATICS CORE CURRICULUM STANDARDS CORRELATED TO
MOVING WITH MATH®-BY-TOPIC LEVEL C GRADE 6

		Student Book	Skill Builders
	STANDARD 1: STUDENTS WILL EXPAND NUMBER SENSE TO INCLUDE OPERATIONS WITH RATIONAL NUMBERS.		
	Objective 1: Represent Rational numbers in a variety of ways.		
a.	Recognize a rational number as a ratio of two integers, a to b, where b is not equal to zero.		
b.	Change whole number with exponents to standard form (e.g., 2^4 = 16) and recognize that any non-zero whole number to the zero power equals 1 (e.g., 9^0 - 1)	**CI:** 21, 22	
c.	Write a whole number in expanded form using exponents (e.g., $876,539 = 8 \times 10^5 + 7 \times 10^4 + 6 \times 10^3 + 5 \times 10^2 + 3 \times 10^1 + 9 \times 10^0$)		
d.	Express numbers in scientific notation using positive powers of ten.		
	Objective 2: Explain relationships and equivalencies among rational numbers.		
a.	Place rational numbers on the number line.	**CII:** 17, 66	14-3
b.	Compare and order rational numbers, including positive and negative mixed fractions and decimals, using a variety of methods and symbols, including the number line and finding common denominators.	**CII:** 16, 28, 72, 74	13-1, 13-2, 14-3, 24-1, 24-2
c.	Find equivalent forms for common fractions, decimals, percents, and ratios, including repeating or terminating decimals.	**CII:** 40, 76, 95, 97, 98	25-2, 30-1
d.	Relate percents less than 1% or greater than 100% to equivalent fractions, decimals, whole numbers, and mixed numbers.		
e.	Recognize that the sum of an integer and its additive inverse is zero.		
	Objective 3: Use number theory concepts to find prime factorizations, least common multiples, and greatest common factors.		
a.	Determine whether whole numbers to 100 are prime, composite, or neither.	**CI:** 18, 19	4-1, 4-2

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b.	Find the prime factorization of composite numbers to 100.	CI: 20	
c.	Find the greatest common factor and least common multiple for two numbers using a variety of methods (e.g., list of multiples, prime factorization).	CI: 42 CII: 22, 41	12-5, 13-3, 17-4
	Objective 4: Model and illustrate meanings of operations and describe how they relate.		
a.	Relate fractions to multiplication and division and use their relationship to explain procedures for multiplying and dividing fractions.	CII: 48-50, 52-54	19-1, 20-2
b.	Recognize that ratios derive from pairs of rows in the multiplication table and connect with equivalent fractions.	CII: 26	
c.	Give mixed number and decimal solutions to division problems with whole numbers.		
	Objective 5: Solve problems involving multiple steps.		
a.	Select appropriate methods to solve a multi-step problem involving multiplication and division of fractions and decimals.	CII: 58, 80	45-9
b.	Use estimation to determine whether results obtained using a calculator are reasonable.	CI: 36, 37	
c.	use estimation or calculation to compute results, depending on the context and numbers involved in the problem.	CI: 51	
d.	Solve problems involving ratios and proportions.	CII: 28, 29	45-7
	Objective 6: Demonstrate proficiency with the four operations, with positive rational numbers, and with addition and subtraction of integers.		
a.	Multiply and divide a multi-digit number by a two-digit number, including decimals.	CI: 46-49, 62-66 CII: 85, 86, 93, 94	8-3, 8-4, 10-4
b.	Add, subtract, multiply, and divide fractions and mixed numbers.	CII: 30-37, 49-55	15-1, 15-5, 19-1, 20-2
c.	Add and subtract integers.	CI: 77	
	STANDARD 2: STUDENTS WILL USE PATTERNS, RELATIONSHIPS, AND ALGEBRAIC EXPRESSIONS TO REPRESENT AND ANALYZE MATHEMATICAL PROBLEMS AND NUMBER RELATIONSHIPS.		
	Objective 1: Analyze algebraic expressions, tables, and graphs to determine patterns, relations, and rules.		
a.	Describe simple relationships by creating and analyzing tables, equations, and expressions.	CI: 69	44-3
b.	Draw a graph and write an equation from a table of values.	CI: 72, 73	

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c.	Draw a graph and create a table of values from an equation.	CI: 72, 73	
	Objective 2: Write, interpret, and use mathematical expressions, equations, and formulas to represent and solve problems that correspond to given situations.		
a.	Solve single variable linear equations using a variety of strategies.		
b.	Recognize that expressions in different forms can be equivalent and rewrite an expression to represent a quantity in a different way.		
c.	Evaluate and simplify expressions and formulas, substituting given values for the variables (e.g., 2x + 4; x = 2; therefore, 2 (2) + 4 = 8).		
	STANDARD 3: STUDENTS WILL USE SPATIAL AND LOGICAL REASONING TO RECOGNIZE, DESCRIBE, AND ANALYZE GEOMETRIC SHAPES AND PRINCIPLES.		
	Objective 1: Identify and analyze attributes and properties of geometric shapes to solve problems.		
a.	Identify the midpoint of a line segment and the center and circumference of a circle.	CIII: 22, 23	35-1
b.	Identify angles as vertical, adjacent, complementary, or supplementary and provide descriptions of these terms.		
c.	Develop and use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle in a triangle or quadrilateral.		
	Objective 2: Visualize and identify geometric shapes after applying transformations on a coordinate plane.		
a.	Rotate a polygon about the origin by a multiple of 90° and identify the location of the new vertices.		
b.	Reflect a polygon across either the x- or y-axis and identify the location of the new vertices.		
c.			
	STANDARD 4: STUDENTS WILL UNDERSTAND AND APPLY MEASUREMENT TOOLS AND TECHNIQUES AND FIND THE CIRCUMFERENCE AND AREA OF A CIRCLE.		
	Objective 1: Describe and find the circumference and area of a circle.		
a.	Explore the relationship between the radius and diameter of a circle to the circle's circumference to develop the formula for circumference.	CIII: 23	35-1
b.	Find the circumference of a circle using a formula.		

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c.	Describe pi as the ratio of the circumference to the diameter of a circle.			
d.	decompose a circle into a number of wedges and rearrange the wedges into a shape that approximates a parallelogram to develop the formula for the area of a circle.			
e.	Find the area of a circle using a formula.			
	Objective 2: Identify and describe he measurable attributes of objects and units of measurement, and solve problems involving measurement.			
a.	Recognize that measurements are approximations and describe how the size of the unit used in measuring affects the precision.			
b.	Convert units of measurement within the metric system and convert units of measurement within the customary system.	CIII: 33, 35, 54, 55		36-3, 36-6, 41-1, 41-2, 42-1, 42-2
c.	Compare a meter to a yard, a liter to a quart, and a kilometer to a mile.			
d.	Determine when it is appropriate to estimate or use precise measurement when solving problems.			
e.	Derive and use the formula to determine the surface area and volume of a cylinder.			
	STANDARD 5: STUDENTS WILL ANALYZE, DRAW CONCLUSIONS, AND MAKE PREDICTIONS BASED UPON DATA AND APPLY BASIC CONCEPTS OF PROBABILITY.			
	Objective 1: Design investigations to reach conclusions using statistical methods to make inferences based on data.			
a.	Design investigations to answer questions.			
b.	Extend data display and comparisons to include scatter plots and circle graphs.	CIII: 68, 69		48-2
c.	Compare two similar sets of data on the same graph and compare two graphs representing the same set of data.			
d.	Recognize that changing the scale influences the appearance of a display of data.			
e.	Propose and justify inferences and predictions based on data.			
	Objective 2: Apply basic concepts of probability and justify outcomes.			
a.	Write the results of a probability experiment as a fraction between zero and one, or an equivalent percent.			47-4

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b.	Compare experimental results with theoretical results (e.g., experimental: 7 out of 10 tails; whereas, theoretical 5 out of 10 tails).		
c.	Compare individual, small group, and large group results of a probability experiment in order to more accurately estimate the actual probabilities.		