Unit Maps: Grade 6 Math

Rational Numbers	Unit	CHECKPOINT		
		1	2	3
6.4 Number and operations. The student represents addition, subtraction, multiplication, and division of rational numbers while solving problems and justifying the solutions.				

Catholic Identity: Integration of Our Faith

6.1A	display a sense of wonder about mathematical relationships *
6.1B	respond to the beauty, harmony, proportion, radiance, and wholeness present in mathematics *
6.1C	show interest in how the mental processes evident within mathematics help us with the development of natural virtues *
6.1D	exhibit appreciation for the process of discovering meanings and truths and not just arriving at an answer *

Learning Process Standards (Tools to Know)		Unit	CHECKPOINT		
			1	2	3
6.2A	determine math needed to solve problems				
6.2B	use problem-solving models				
6.2C	exhibit joy at solving difficult mathematical problems *				

Content		Unit	CHECKPOINT		
			1	2	3
Comparison of Rational Numbers					
6.4A	order a set of rational numbers arising from mathematical and real-world contexts				
6.4A.1	classify whole numbers, integers, and rational numbers using a visual representation such as a Venn diagram to describe relationships between sets of numbers				
6.4A.2	locate, compare, and order integers and rational numbers using a number line				
Multiplication and Division with Positive Rational Numbers					
6.4B	multiply and divide positive rational numbers fluently				
6.4B.1	extend representations for division to include fraction notation such as a/b represents the same number as $a \div b$ where $b \neq 0$				
6.4B.2	recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values				
6.4B.3	determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one				
All Operations with Integers					
6.4C	add, subtract, multiply, and divide integers fluently				
6.4C.1	identify a number, its opposite, and its absolute value				
6.4C.2	represent integer operations with concrete models and connect the actions with the models to standardized algorithms				

Learning Process Standards (Ways to Show)		Unit	CHECKPOINT		
			1	2	3
6.2D	create representations				
6.2E	analyze information				
6.2F	develop lines of inquiry to determine truth or falsehood *				

Developed in partnership with lead4ward

CATHOLIC CURRICULAR STANDARDS AND DISPOSITIONS IN MATHEMATICS K-6, Cardinal Newman Society

Unit Maps: Grade 6 Math

Proportional Reasoning. **6.5 Proportionality.** The student solves problems involving proportional relationships.	Unit	CHECKPOINT 1	2	3

Catholic Identity: Integration of Our Faith

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6.1C show interest in how the mental processes evident within mathematics help us with the development of natural virtues *
6.1D exhibit appreciation for the process of discovering meanings and truths and not just arriving at an answer *

Learning Process Standards (Tools to Know))		Unit	CHECKPOINT 1	2	3
6.2A	determine math needed to solve problems				
6.2B	use problem-solving models				
6.2C	exhibit joy at solving difficult mathematical problems *				

Content		Unit	CHECKPOINT 1	2	3
Fractions/Decimals/Percents					
6.5A	solve real-world problems using percents				
6.5A.1	generate equivalent forms of fractions, decimals, and percents using real-world problems, including problems that involve money				
6.5A.2	represent ratios and percents with concrete models, fractions, and decimals				
Ratios/Rates					
6.5B	apply qualitative and quantitative reasoning to solve prediction and comparison of real-world problems involving ratios and rates				
6.5B.1	represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions				
6.5B.2	convert units within a measurement system, including the use of proportions and unit rates				

Learning Process Standards (Ways to Show)		Unit	CHECKPOINT 1	2	3
6.2D	create representations				
6.2E	analyze information				
6.2F	develop lines of inquiry to determine truth or falsehood *				

Unit Maps: Grade 6 Math

Geometry and Measurement	Unit	CHECKPOINT		
		1	2	3
6.6 Geometry and measurement. The student use geometry to represent relationships and solve problems.				

Catholic Identity: Integration of Our Faith

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6.1D exhibit appreciation for the process of discovering meanings and truths and not just arriving at an answer *

Learning Process Standards (Tools to Know)	Unit	CHECKPOINT		
		1	2	3
6.2A determine math needed to solve problems				
6.2B use problem-solving models				
6.2C exhibit joy at solving difficult mathematical problems *				

Content	Unit	CHECKPOINT		
		1	2	3
Measurement				
6.6A convert units within a measurement system, including the use of proportions and unit rates				
Triangles				
6.6B determine the sum of angles of a triangle, the relationship between the lengths of sides and measures of angles in a triangle, and determining when three lengths form a triangle				
Area/Volume				
6.6C determine solutions for problems involving the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers				
6.6C.1 model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes				
6.6C.2 write equations that represent problems related to the area of rectangles, parallelograms, trapezoids, and triangles and volume of right rectangular prisms where dimensions are positive rational numbers				

Learning Process Standards (Ways to Show)	Unit	CHECKPOINT		
		1	2	3
6.2D create representations				
6.2E analyze information				
6.2F develop lines of inquiry to determine truth or falsehood *				

Unit Maps: Grade 6 Math

Data Analysis	Unit	CHECKPOINT		
		1	2	3
6.7 Data analysis. The student uses numerical or graphical representations to analyze and solve problems.				

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Learning Process Standards (Tools to Know)		Unit	CHECKPOINT		
			1	2	3
6.2A	determine math needed to solve problems				
6.2B	use problem-solving models				
6.2C	exhibit joy at solving difficult mathematical problems *				

Content		Unit	CHECKPOINT		
			1	2	3
Interpreting Data					
6.7A	interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots				
6.7A.1	represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots				
Measures of Data					
6.7B	Use appropriate numerical or categorical data with numerical summaries to analyze and interpret a set of data				
6.7B.1	summarize numeric data with numerical summaries, including the mean and median (measures of center) and the range and interquartile range (IQR) (measures of spread), and use these summaries to describe the center, spread, and shape of the data distribution				
6.7B.2	summarize categorical data with numerical and graphical summaries, including the mode, the percent of values in each category (relative frequency table), and the percent bar graph, and use these summaries to describe the data distribution				
6.7B.3	use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution				

Learning Process Standards (Ways to Show)		Unit	CHECKPOINT		
			1	2	3
6.2D	create representations				
6.2E	analyze information				
6.2F	develop lines of inquiry to determine truth or falsehood *				

Unit Maps: Grade 6 Math

Expressions, Equations, and Inequalities	Unit	CHECKPOINT		
		1	2	3
6.8 Expressions, equations, and relationships. The student uses equations and inequalities to solve problems.				

Catholic Identity: Integration of Our Faith

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Learning Process Standards (Tools to Know)		Unit	CHECKPOINT		
			1	2	3
6.2A	determine math needed to solve problems				
6.2B	use problem-solving models				
6.2C	exhibit joy at solving difficult mathematical problems *				

Content		Unit	CHECKPOINT		
			1	2	3
Order of Operations					
6.8A	generate equivalent numerical expressions using order of operations, including whole number exponents, and prime factorization				
6.8A.1	generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties				
6.8A.2	determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations				
Solving Problems with Equations/Inequalities					
6.8B	model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts				
6.8B.1	write one-variable, one-step equations and inequalities				
6.8B.2	represent solutions for one-variable, one-step equations and inequalities on number lines				

Learning Process Standards (Ways to Show)		Unit	CHECKPOINT		
			1	2	3
6.2D	create representations				
6.2E	analyze information				
6.2F	develop lines of inquiry to determine truth or falsehood *				

Unit Maps: Grade 6 Math

Algebraic Representations **6.8 Expressions, equations, and relationships.** The student uses multiple representations to describe algebraic relationships.	Unit	CHECKPOINT 1	2	3

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Learning Process Standards (Tools to Know)		Unit	CHECKPOINT 1	2	3
6.2A	determine math needed to solve problems				
6.2B	use problem-solving models				
6.2C	exhibit joy at solving difficult mathematical problems *				

Content		Unit	CHECKPOINT 1	2	3
Linear Representations					
6.8C	represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$				
6.8C.1	compare two rules verbally, numerically, graphically, and symbolically in the form of $y = ax$ or $y = x + a$ in order to differentiate between additive and multiplicative relationships				
6.8C.2	identify independent and dependent quantities from tables and graphs				
6.8C.3	write an equation that represents the relationship between independent and dependent quantities from a table				
6.8C.4	graph points in all four quadrants using ordered pairs of rational number				

Learning Process Standards (Ways to Show)		Unit	CHECKPOINT 1	2	3
6.2D	create representations				
6.2E	analyze information				
6.2F	develop lines of inquiry to determine truth or falsehood *				