

# Snapshot - Grade 6 SCCS

## Catholic Identity: Integration of Our Faith

6.1A	display 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*

## Mathematical Learning Process Standards

**6.2 Learning Process Standards.** The student uses mathematical processes to acquire and demonstrate mathematical understanding, demonstrating the mental habits of precise, determined, careful, and accurate questioning, inquiry, and reasoning\*

Tools to Know		Ways to Show	
6.2A	apply mathematics to problems arising in everyday life, society, and the workplace	6.2D	create and use representations to organize, record, and communicate mathematical ideas
6.2B	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution	6.2E	analyze mathematical relationships to connect and communicate mathematical ideas
6.2C	exhibit joy at solving difficult mathematical problems and operations*	6.2F	develop lines of inquiry to understand why things are true and why they are false*

## Numerical Operations & Numbers and Operations

**6.4 Number and operations.** The student represents addition, subtraction, multiplication, and division of rational numbers while solving problems and justifying the solutions.

**7.4 Number and operations.** The student adds, subtracts, multiplies, and divides rational numbers while solving problems and justifying solutions.

Priority Standards		Supporting Standards	
7.4A.1	Add, subtract, multiply, and divide rational numbers fluently	6.4C.1	Identify a number, its opposite, and its absolute value
		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
		6.4A	Order a set of rational numbers arising from mathematical and real-world contexts
		7.4A.2	Extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers
		7.4A	Solve problems using addition, subtraction, multiplication, and division of rational numbers

Integer Operations			
<b>6.4</b>	<b>Number and operations.</b> The student represents addition, subtraction, multiplication, and division of rational numbers while solving problems and justifying the solutions.		
Priority Standards		Supporting Standards	
6.4C	Add, subtract, multiply, and divide integers fluently	6.4C.2	Represent integer operations with concrete models and connect the actions with the models to standardized algorithms
Ratios and Rates and Proportionality			
<b>6.5</b>	<b>Proportionality.</b> The student solves problems involving proportional relationships.		
<b>7.5</b>	<b>Proportionality.</b> The student represents and solves problems involving proportional relationships.		
Priority Standards		Supporting Standards	
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
7.5C	Solve problems involving ratios, rates, and percent, including multi-step problems involving percent increase and percent decrease, and financial literacy problems	6.5B.2	Convert units within a measurement system, including the use of proportions and unit rates
		6.4C(T)	Give examples of ratios as multiplicative comparisons of two quantities describing the same attribute
		6.4D(T)	Give examples of rates as the comparison of division of two quantities having different attributes, including rates as quotients
		7.5A.1	Calculate unit rates from rates in mathematical and real-world problems
		7.4E(T)	Convert between measurement systems, including the use of proportions and the use of unit rates
Percents			
<b>6.5</b>	<b>Proportionality.</b> The student solves problems involving proportional relationships.		
Priority Standards		Supporting Standards	
6.5A	Solve real-world problems using percent	6.5C(T)	Use equivalent fractions, decimals, and percents to show equal parts of the same whole
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
		6.4F(T)	Represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers
Expressions			
<b>6.8</b>	<b>Algebra.</b> The student uses equations and inequalities to solve problems.		
Priority Standards		Supporting Standards	
6.8A	Generate equivalent numerical expressions using order of operations, including whole number exponents, and prime factorization	6.7B(T)	Distinguish between expressions and equations verbally, numerically, and algebraically
		6.8A.2	Determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations
		6.8A.1	Generate equivalent expressions using the properties of operations: inverse, identity, commutative, associative, and distributive properties

Equations and Inequalities			
<b>6.8</b>	<b>Algebra.</b> The student uses equations and inequalities to solve problems.		
<b>7.8</b>	<b>Algebra.</b> The student solves one-variable equations and inequalities.		
Priority Standards		Supporting Standards	
7.8A	Model and solve one-variable, two-step equations and inequalities	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
		6.9C(T)	Write corresponding real-world problems given one-variable, one-step equations or inequalities
		6.8B	Model and solve one-variable, one-step equations and inequalities that represent problems, including geometric concepts
		6.10B(T)	Determine if the given value(s) make(s) one-variable, one-step equations or inequalities true
		7.8A.1	Write one-variable, two-step equations and inequalities
		7.8A.2	Represent solutions for one-variable, two-step equations and inequalities on number lines
		7.10C(T)	Write a corresponding real-world problem given a one-variable, two-step equation or inequality
		7.11B(T)	Determine if the given value(s) make(s) one-variable, two-step equations and inequalities true
Plane Geometry and Similarity			
<b>6.6</b>	<b>Geometry and measurement.</b> The student uses geometry to represent relationships and solve problems.		
<b>7.6</b>	<b>Geometry and measurement.</b> The student solves geometric problems involving proportional relationships and volume.		
Priority Standards		Supporting Standards	
7.6D	Write and solve equations using geometry concepts, including the sum of the angles in a triangle, and angle relationships	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
		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
		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
		7.6C.1	Generalize the critical attributes of similarity, including ratios within and between similar shapes
		7.6E.1	Describe pi as the ratio of the circumference of a circle to its diameter
		7.6C	Solve mathematical and real-world problems involving similar shape and scale drawings
		7.6E	Determine the circumference and area of circles
		7.6A	Determine the area of composite figures containing combinations of rectangles, squares, parallelograms, trapezoids, triangles, semicircles, and quarter circles
		7.8C(T)	Use models to determine the approximate formulas for the circumference and area of a circle and connect the models to the actual formulas
Surface Area			
<b>7.6</b>	<b>Geometry and measurement.</b> The student solves geometric problems involving proportional relationships and volume.		
Priority Standards		Supporting Standards	
7.6A.1	Solve problems involving the lateral and total surface area of a rectangular prism, rectangular pyramid, triangular prism, and triangular pyramid by determining the area of the shape's net		

Volume			
<b>7.6</b>	<b>Geometry and measurement.</b> The student solves geometric problems involving proportional relationships and volume.		
	Priority Standards	Supporting Standards	
7.6B	Solve problems involving the volume of rectangular prisms, triangular prisms, rectangular pyramids, and triangular pyramids	7.6B.1	Model the relationship between the volume of a rectangular prism and a rectangular pyramid having both congruent bases and heights and connect that relationship to the formulas
		7.6B.2	Explain verbally and symbolically the relationship between the volume the of a triangular prism and a triangular pyramid having both congruent bases and heights and connect that relationship to the formulas
Data and Statistics			
<b>6.7</b>	<b>Data analysis.</b> The student uses statistical representations to analyze data.		
	Priority Standards	Supporting Standards	
		6.7A.1	Represent numeric data graphically, including dot plots, stem-and-leaf plots, histograms, and box plots
		6.7B.3	Use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution
		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
		6.7A	Interpret numeric data summarized in dot plots, stem-and-leaf plots, histograms, and box plots
		6.13B(T)	Distinguish between situations that yield data with and without variability
CEKS not included:			
6.6A	Convert units within a measurement system, includig the use of proportions and unit rates		It is the same as 6.5B.2 which can be found in the unit on Ratios, Rates & Proportionality
6.7B	Use appropriate numerical or categorical data with numerical summaries to analyze and interpret a set of data		No TEKS correlate and it doesn't make any sense