

# Snapshot - Grade 5 SCCS

## Catholic Identity: Integration of Our Faith

5.1A	display sense of wonder about mathematical relationships*
5.1B	respond to the beauty, harmony, proportion, radiance, and wholeness present in mathematics*
5.1C	show interest in how the mental processes evident within mathematics help us with the development of natural virtues*
5.1D	exhibit appreciation for the process of discovering meanings and truths and not just arriving at an answer*

## Mathematical Learning Process Standards

**5.2 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	
5.2A	Apply mathematics to problems arising in everyday life, society, and the workplace	5.2D	Create and use representations to organize, record, and communicate mathematical ideas
5.2B	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	5.2E	Analyze mathematical relationships to connect and communicate mathematical ideas
5.2C	Exhibit joy at solving difficult mathematical problems and operations*	5.2F	Develop lines of inquiry to understand why things are true and why they are false*

## Whole Number Operations

**5.4 Number and operations.** The student develops and uses strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.

Priority Standards		Supporting Standards	
5.4A	Represent and solve multi-step problems involving the four operations with whole numbers using equations with a letter standing for the unknown quantity	5.4A.1	Estimate to determine solutions to mathematical and real-world problems involving addition, subtraction, multiplication or division
		5.4A.2	Multiply with fluency a three-digit number by a two-digit number using the standard algorithm
		5.4A.3	Solve with proficiency for quotients of up to a four-digit dividend by a two-digit divisor using strategies and the standard algorithm

Order of Operations/Exponents			
5.4	<b>Number and operations.</b> The student develops and uses strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.		
6.8	<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	5.4B.1	Describe the meaning of parentheses and brackets in a numeric expression
		5.4G.1	Identify prime and composite numbers
		5.4B	Simplify numerical expressions that do not involve exponents, including up to two levels of grouping
Fractions			
5.4	<b>Number and operations.</b> The student develops and uses strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.		
Priority Standards		Supporting Standards	
5.4F	Add and subtract positive rational numbers fluently	5.4G	Represent and solve multiplication of a whole number and a fraction that refers to the same whole using objects and pictorial models, including area models
			Divide whole numbers by unit fractions and unit fractions by whole numbers
		5.4H	Represent and solve addition and subtraction of fractions with unequal denominators referring to the same whole using objects and pictorial models and properties of operations
		5.4F.1	Represent division of a unit fraction by a whole number and the division of a whole number by a unit fraction such as $1/3 \div 7$ and $7 \div 1/3$ using objects and pictorial models, including area models
		5.4H.1	
Decimals			
5.3	<b>Place Value.</b> The student represents, compares, and orders positive rational numbers and understands relationships as related to place value.		
5.4	<b>Number and operations.</b> The student develops and uses strategies and methods for positive rational number computations in order to solve problems with efficiency and accuracy.		
Priority Standards		Supporting Standards	
5.4C	Add and subtract positive decimals fluently	5.3A.1	Rrepresent the value of the digit in decimals through the thousandths using expanded notation and numerals
		5.3A	Compare and order two decimals to thousandths and represent comparisons using the symbols $>$ , $<$ , or $=$
		5.4E	Solve for quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using strategies and algorithms
			Represent multiplication of decimals with products to the hundredths using objects and pictorial models, including area models
		5.4D.1	Round decimals to tenths or hundredths
			Represent quotients of decimals to the hundredths, up to four-digit dividends and two-digit whole number divisors, using objects and pictorial models, including area models
		5.4C.1	Solve for products of decimals to the hundredths, including situations involving money, using strategies based on place-value understandings, properties of operations, and the relationship to the multiplication of whole numbers
		5.4E.1	
		5.4D	

Positive Rational Numbers			
<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	
6.4B	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
Data & Statistics			
<b>5.7</b>	<b>Data Analysis.</b> The student solves problems by collecting, organizing, displaying, and interpreting data.		
Priority Standards		Supporting Standards	
5.7A	Solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatterplot	5.7A.1	Represent categorical data with bar graphs or frequency tables and numerical data, including data sets of measurements in fractions or decimals, with dot plots or stem-and-leaf plots
		5.7A.2	Represent discrete paired data on a scatterplot
Coordinate Plane			
<b>5.6</b>	<b>Geometry &amp; Measurement.</b> The student graphs and interprets points, expressions, and equations on a coordinate plane.		
<b>6.8</b>	<b>Algebra.</b> The student uses multiple representations to describe algebraic relationships.		
Priority Standards		Supporting Standards	
6.8C.4	Graph points in all four quadrants using ordered pairs of rational numbers	5.6A	Graph in the first quadrant of the coordinate plane ordered pairs of numbers arising from mathematical and real-world problems, including those generated by number patterns or found in an input-output table
		5.6A.1	Describe the process for graphing ordered pairs of numbers in the first quadrant of the coordinate plane
Algebraic Representations			
<b>5.6</b>	<b>Geometry &amp; Measurement.</b> The student graphs and interprets points, expressions, and equations on a coordinate plane.		
<b>6.8</b>	<b>Algebra.</b> The student uses multiple representations to describe algebraic relationships.		
Priority Standards		Supporting Standards	
6.8C	Represent a given situation using verbal descriptions, tables, graphs, and equations in the form $y = kx$ or $y = x + b$	5.6B	Generate and graph a numerical pattern when given a rule in the form $y = ax$ or $y = x + a$
		5.6B.1	Recognize the difference between additive and multiplicative numerical patterns given in a table or graph
		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

Measurement			
5.6	Geometry & Measurement. The student graphs and interprets points, expressions, and equations on a coordinate plane.		
Priority Standards		Supporting Standards	
5.6C	Represent and solve problems related to perimeter and/or area	5.6D.1	Recognize a cube with side length of one unit as a unit cube having one cubic unit of volume and the volume of a three-dimensional figure as the number of unit cubes (n cubic units) needed to fill it with no gaps or overlaps if possible
5.6D	Represent and solve problems related to perimeter and/or area and related to volume	5.6D.2	Determine the volume of a rectangular prism with whole number side lengths in problems related to the number of layers times the number of unit cubes in the area of the base
5.6E	Solve problems by calculating conversions within a measurement system, customary or metric	5.6D.3	Use concrete objects and pictorial models to develop the formulas for the volume of a rectangular prism, including the special form for a cube ( $V = l \times w \times h$ , $V = s \times s \times s$ , and $V = Bh$ )