BENCHMARK REPORT
MATHEMATICS GRADE 6

ARCHDIOCESE CHICAGO CATHOLIC SCHOOLS

DOMAIN: Standards for Mathematical Content		
Status:	**OCS Code:**	**Strand: *Ratios and Proportional Relationships (RP)***
	6.SMC.RP.1	**Understand ratio concepts and use ratio reasoning to solve problems.**
Supporting	6.SMC.RP.1.1.a	Use ratio language to describe a ratio relationship between two quantities
Supporting	6.SMC.RP.1.2-1.a	Compare a unit rate a/b with a ratio a:b with b ≠ 0
Supporting	6.SMC.RP.1.2-2.a	Use rate language in the context of a ratio relationship
Focus	6.SMC.RP.1.3-1.b	Make tables of equivalent ratios relating quantities with whole number measurements
Supporting	6.SMC.RP.1.3-2.b	Find missing values in a table of equivalent ratios relating quantities with whole number measurements
Supporting	6.SMC.RP.1.3-3.b	Plot pairs of values of equivalent ratios on the coordinate plane
Supporting	6.SMC.RP.1.3-4.b	Compare equivalent ratios using tables
Focus	6.SMC.RP.1.3-5.c	Solve unit rate problems including those involving unit pricing and constant speed
Supporting	6.SMC.RP.1.3-6.b	Find a percent of a quantity as a rate per 100
Supporting	6.SMC.RP.1.3-7.b	Solve problems by finding the whole, given a part and the percent
Focus	6.SMC.RP.1.3-8.b	Convert measurement units using ratio reasoning
Focus	6.SMC.RP.1.3-9.b	Manipulate measurement units when multiplying or dividing quantities
Supporting	6.SMC.RP.1.3-10.b	Transform measurement units when multiplying or dividing quantities
Status:	**OCS Code:**	**Strand: *The Number System (NS)***
	6.SMC.NS.1	**Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**
Supporting	6.SMC.NS.1.1-1.b	Interpret quotients of fractions
Supporting	6.SMC.NS.1.1-2.b	Compute quotients of fractions
Supporting	6.SMC.NS.1.1-3.b	Solve word problems involving division of fractions by fractions
	6.SMC.NS.2	**Compute fluently with multi-digit numbers and find common factors and multiples.**
Focus	6.SMC.NS.2.2.a	Divide multi-digit numbers fluently using the standard algorithm
Focus	6.SMC.NS.2.3.a	Add, subtract, multiply, and divide multi-digit decimals fluently using the standard algorithm for each operation
Supporting	6.SMC.NS.2.4-1.b	Find the greatest common factor of two whole numbers less than or equal to 100
Supporting	6.SMC.NS.2.4-2.b	Find the least common multiple of two whole numbers less than or equal to 12
Supporting	6.SMC.NS.2.4-3.b	Use the distributive property to express a sum of two whole numbers from 1 to 100 with a common factor as a multiple of a sum of two whole numbers with no common factor
	6.SMC.NS.3	**Apply and extend previous understandings of numbers to the system of rational numbers.**
Supporting	6.SMC.NS.3.1-1.b	Show that positive and negative numbers are used together to describe quantities having opposite directions or values
Supporting	6.SMC.NS.3.1-2.b	Explain the meaning of zero when using positive and negative numbers to represent quantities in real-world contexts
Supporting	6.SMC.NS.3.2-1.a	Express opposite signs of numbers as indicating locations on opposite sides of 0 on the number line
Supporting	6.SMC.NS.3.2-2.a	Show that the opposite of the opposite of a number is the number itself
Supporting	6.SMC.NS.3.2-3.a	Show that 0 is its own opposite
Supporting	6.SMC.NS.3.2-4.b	Show that signs of numbers in ordered pairs indicate locations in quadrants of the coordinate plane
Supporting	6.SMC.NS.3.2-5.b	Show that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes in quadrants of the coordinate plane
Supporting	6.SMC.NS.3.2-6.a	Find integers and other rational numbers on a horizontal or vertical number line diagram
Supporting	6.SMC.NS.3.2-7.b	Position integers and other rational numbers on a horizontal or vertical number line diagram
Supporting	6.SMC.NS.3.2-8.a	Find pairs of integers and other rational numbers on a coordinate plane
Supporting	6.SMC.NS.3.2-9.b	Position pairs of integers and other rational numbers on a coordinate plane
Supporting	6.SMC.NS.3.3-1.b	Use the relative position of two numbers on a number line diagram to interpret statements of inequality
Supporting	6.SMC.NS.3.3-2.b	Write statements of order for rational numbers using real-world context
Focus	6.SMC.NS.3.3-3.b	Interpret statements of order for rational numbers using real-world contexts
Supporting	6.SMC.NS.3.3-4.b	Explain statements of order for rational numbers using real-world contexts

BENCHMARK REPORT
MATHEMATICS GRADE 6

Supporting	6.SMC.NS.3.3-5.c	Use the distance from 0 on the number line to identify the absolute value of a rational number
Supporting	6.SMC.NS.3.3-6.c	Use the distance from 0 on the number line to interpret the absolute value as magnitude for a positive or negative quantity in a real-world situation
Supporting	6.SMC.NS.3.3-7.c	Distinguish comparisons of absolute value from statements about order
Focus	6.SMC.NS.3.4.c	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane
Status:	**OCS Code:**	**Strand: *Expressions and Equations (EE)***
	6.SMC.EE.1	**Apply and extend previous understandings of arithmetic to algebraic expressions.**
Supporting	6.SMC.EE.1.1-1.a	Write numerical expressions involving whole-number exponents
Supporting	6.SMC.EE.1.1-2.a	Evaluate numerical expressions involving whole-number exponents
Supporting	6.SMC.EE.1.2-1.a	Write expressions that record operations with numbers and with letters standing for numbers
Focus	6.SMC.EE.1.2-2.b	Identify parts of an expression using mathematical terminology
Supporting	6.SMC.EE.1.2-3.b	Describe one or more parts of an expression as a single entity
Supporting	6.SMC.EE.1.2-4.b	Evaluate expressions at specific values of their variables
Supporting	6.SMC.EE.1.2-5.b	Use Order of Operations to perform arithmetic operations in the conventional order when there are no parentheses to specify a particular order
Focus	6.SMC.EE.1.3.c	Apply the properties of operations to generate equivalent expressions
Focus	6.SMC.EE.1.4.b	Determine the equivalency of two expressions
	6.SMC.EE.2	**Reason about and solve one-variable equations and inequalities.**
Supporting	6.SMC.EE.2.1-1.b	Determine the set of values that make an equation or inequality true
Supporting	6.SMC.EE.2.1-2.b	Use substitution to determine whether a given number in a specified set makes an equation or inequality true
Supporting	6.SMC.EE.2.2-1.b	Solve a real world or mathematical problem by writing expressions with variables representing numbers
Supporting	6.SMC.EE.2.2-2.b	Show that a variable represents an unknown number or any number in a specified set
Focus	6.SMC.EE.2.3-1.c	Solve real-world and mathematical problems by using equations of the form x + p = q for cases in which p, q and x are all nonnegative rational numbers
Focus	6.SMC.EE.2.3-2.c	Solve real-world and mathematical problems by using equations of the form px = q for cases in which p, x and q are all nonnegative rational numbers
Supporting	6.SMC.EE.2.4-1.c	Write an inequality of the form x > c or x < c to represent a real world or mathematical constraint or condition
Supporting	6.SMC.EE.2.4-2.b	Show that inequalities of the form x > c or x < c have infinitely many solutions
Supporting	6.SMC.EE.2.4-3.b	Represent solutions of inequalities of the form x > c or x < c on number line diagrams
	6.SMC.EE.3	**Represent and analyze quantitative relationships between dependent and independent variables.**
Focus	6.SMC.EE.3.1-1.c	Solve a real world problem that uses variables to represent two quantities that change in relationship to one another
Supporting	6.SMC.EE.3.1-2.c	Write an equation that expresses one quantity as the independent variable and the second quantity as the dependent variable
Supporting	6.SMC.EE.3.1-3.c	Analyze the relationship between the dependent and independent variables using graphs and tables
Supporting	6.SMC.EE.3.1-4.c	Relate graphs and tables to a written equation that expresses one quantity as the independent variable and the second quantity as the dependent variable
Status:	**OCS Code:**	**Strand: *Geometry (G)***
	6.SMC.G.1	**Solve real-world and mathematical problems involving area, surface area, and volume.**
Supporting	6.SMC.G.1.1-1.a	Find the area of right triangles, non-right triangles, special quadrilaterals, and polygons by composing into rectangles
Supporting	6.SMC.G.1.1-2.a	Find the area of right triangles, non-right triangles, special quadrilaterals, and polygons by decomposing into triangles and other shapes
Focus	6.SMC.G.1.1-3.a	Solve real world problems by finding the area of right triangles, non-right triangles, special quadrilaterals, and polygons by composing into rectangles
Supporting	6.SMC.G.1.1-4.a	Solve real world problems by finding the area of right triangles, non-right triangles, special quadrilaterals, and polygons by decomposing into triangles and other shapes
Supporting	6.SMC.G.1.2-1.a	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths

Supporting	6.SMC.G.1.2-2.a	Compare the volume of a right rectangular prism with fractional edge lengths found by packing it with unit cubes of unit fraction edge lengths to the volume of a right rectangular prism found by multiplying edge lengths of the prism
Supporting	6.SMC.G.1.2-3.a	Solve real world and mathematical problems by applying the formula V = l w h to find volumes of right rectangular prisms with fractional edge lengths
Supporting	6.SMC.G.1.2-4.a	Solve real world and mathematical problems by applying the formula V = b h to find volumes of right rectangular prisms with fractional edge lengths
Focus	6.SMC.G.1.3-1.b	Draw polygons in the coordinate plane given coordinates for the vertices
Supporting	6.SMC.G.1.3-2.b	Use coordinates in the coordinate plane to find the length of a side joining points with the same first or the same second coordinate
Supporting	G.SMC.G.1.3-3.b	Solve real world problems by drawing polygons in the coordinate plane and finding the length of a side joining points with the same first or the same second coordinate
Supporting	6.SMC.G.1.4-1.c	Represent three-dimensional figures using nets made up of rectangles and triangles
Supporting	6.SMC.G.1.4-2.c	Use nets made up of rectangles and triangles representing three-dimensional figures to find the surface area of these figures
Focus	6.SMC.G.1.4-3.c	Solve real world and mathematical problems by representing three-dimensional figures by using nets made up of rectangles and triangles
Status:	**OCS Code:**	**Strand: *Statistics and Probability (SP)***
	6.SMC.SP.1	**Develop understanding of statistical variability.**
Supporting	6.SMC.SP.1.1.a	Identify a statistical question
Focus	6.SMC.SP.1.2.b	Identify the characteristics of a statistical distribution of a set of data
Supporting	6.SMC.SP.1.3-1.b	Locate a measure of center for a numerical data set
Supporting	6.SMC.SP.1.3-2.b	Locate a measure of variation for a numerical data set
	6.SMC.SP.2	**Summarize and describe distributions.**
Supporting	6.SMC.SP.2.1.a	Display numerical data in plots on a number line
Focus	6.SMC.SP.2.2-1.b	Summarize numerical data sets in relation to their context by reporting the number of observations
Supporting	6.SMC.SP.2.2-2.b	Summarize numerical data sets in relation to their context by describing how it was measured and its units of measurement
Focus	6.SMC.SP.2.2-3.c	Summarize numerical data sets in relation to their context by using quantitative measures of center
Supporting	6.SMC.SP.2.2-4.c	Summarize numerical data sets in relation to their context by using quantitative measures of variability
Focus	6.SMC.SP.2.2-5.c	Summarize numerical data sets by describing overall patterns and deviations from the overall patterns with reference to the context in which the data were gathered
Supporting	6.SMC.SP.2.2-6.c	Summarize numerical data sets by relating measures of center and variability to the shape of the data distribution in the context in which the data were gathered
DOMAIN: Standards for Mathematical Practices		
Status:	**OCS Code:**	**Strand: *Solve Problems (MP1)***
	6.SMP.1	**1. Make sense of problems and persevere in solving them.**
Focus	6.SMP.1.c	Make sense of problems and persevere in solving them
Status:	**OCS Code:**	**Strand: *Reason (MP2)***
	6.SMP.2	**2. Reason abstractly and quantitatively.**
Focus	6.SMP.2.c	Reason abstractly and quantitatively
Status:	**OCS Code:**	**Strand: *Construct Arguments (MP3)***
	6.SMP.3	**3. Construct viable arguments and critique the reasoning of others.**
Supporting	6.SMP.3.c	Construct viable arguments and critique the reasoning of others
Status:	**OCS Code:**	**Strand: *Model (MP4)***
	6.SMP.4	**4. Model with mathematics.**
Supporting	6.SMP.4.c	Model with mathematics
Status:	**OCS Code:**	**Strand: *Use Tools (MP5)***
	6.SMP.5	**5. Use appropriate tools strategically.**
Focus	6.SMP.5.c	Use appropriate tools strategically
Status:	**OCS Code:**	**Strand: *Attend to Precision (MP6)***
	6.SMP.6	**6. Attend to precision.**
Focus	6.SMP.6.c	Attend to precision

Code consists of Grade (K-8),Domain (2-3 character alpha code), Strand (1-3 character alpha code), Standard (1-9), Benchmark Number (1 or 1-1 and up), and Complexity (a, b, c).

BENCHMARK REPORT
MATHEMATICS GRADE 6

Status:	OCS Code:	Strand: *Use Structure (MP7)*
	6.SMP.7	**7. Look for and make use of structure.**
Focus	6.SMP.7.c	Look for and make use of structure
Status:	**OCS Code:**	**Strand: *Express Regularity (MP8)***
	6.SMP.8	**8. Look for and express regularity in repeated reasoning.**
Supporting	6.SMP.8.c	Look for and express regularity in repeated reasoning

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