

BENCHMARK SEQUENCE REPORT

MATHEMATICS GRADE 6 BY QUARTER



This planning tool can be used to sequence the teaching and assessing of the OCS Benchmarks. Benchmarks should be assessed formatively in multiple ways and over multiple times to guide reteaching/relearning. Benchmarks that are assessed summatively should be sequenced throughout the school year to determine student mastery.

Quarter 1		Quarter 2		Quarter 3		Quarter 4		OCS Benchmarks	
Taught	Assessed	Taught	Assessed	Taught	Assessed	Taught	Assessed	OCS Codes	Benchmarks
DOMAIN: Standards for Mathematical Content									
<i>Strand: Ratios and Proportional Relationships (RP)</i>									
6.SMC.RP.1 Understand ratio concepts and use ratio reasoning to solve problems.									
								6.SMC.RP.1.1.a	Use ratio language to describe a ratio relationship between two quantities
								6.SMC.RP.1.2-1.a	Compare a unit rate a/b with a ratio $a:b$ with $b \neq 0$
								6.SMC.RP.1.2-2.a	Use rate language in the context of a ratio relationship
								6.SMC.RP.1.3-1.b	Make tables of equivalent ratios relating quantities with whole number measurements
								6.SMC.RP.1.3-2.b	Find missing values in a table of equivalent ratios relating quantities with whole number measurements
								6.SMC.RP.1.3-3.b	Plot pairs of values of equivalent ratios on the coordinate plane
								6.SMC.RP.1.3-4.b	Compare equivalent ratios using tables
								6.SMC.RP.1.3-5.c	Solve unit rate problems including those involving unit pricing and constant speed
								6.SMC.RP.1.3-6.b	Find a percent of a quantity as a rate per 100
								6.SMC.RP.1.3-7.b	Solve problems by finding the whole, given a part and the percent
								6.SMC.RP.1.3-8.b	Convert measurement units using ratio reasoning
								6.SMC.RP.1.3-9.b	Manipulate measurement units when multiplying or dividing quantities
								6.SMC.RP.1.3-10.b	Transform measurement units when multiplying or dividing quantities
<i>Strand: The Number System (NS)</i>									
6.SMC.NS.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions.									
								6.SMC.NS.1.1-1.b	Interpret quotients of fractions
								6.SMC.NS.1.1-2.b	Compute quotients of fractions
								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.									
								6.SMC.NS.2.2.a	Divide multi-digit numbers fluently using the standard algorithm
								6.SMC.NS.2.3.a	Add, subtract, multiply, and divide multi-digit decimals fluently using the standard algorithm for each operation
								6.SMC.NS.2.4-1.b	Find the greatest common factor of two whole numbers less than or equal to 100
								6.SMC.NS.2.4-2.b	Find the least common multiple of two whole numbers less than or equal to 12
								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.									
								6.SMC.NS.3.1-1.b	Show that positive and negative numbers are used together to describe quantities having opposite directions or values

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								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
								6.SMC.NS.3.2-1.a	Express opposite signs of numbers as indicating locations on opposite sides of 0 on the number line
								6.SMC.NS.3.2-2.a	Show that the opposite of the opposite of a number is the number itself
								6.SMC.NS.3.2-3.a	Show that 0 is its own opposite
								6.SMC.NS.3.2-4.b	Show that signs of numbers in ordered pairs indicate locations in quadrants of the coordinate plane
								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
								6.SMC.NS.3.2-6.a	Find integers and other rational numbers on a horizontal or vertical number line diagram
								6.SMC.NS.3.2-7.b	Position integers and other rational numbers on a horizontal or vertical number line diagram
								6.SMC.NS.3.2-8.a	Find pairs of integers and other rational numbers on a coordinate plane
								6.SMC.NS.3.2-9.b	Position pairs of integers and other rational numbers on a coordinate plane
								6.SMC.NS.3.3-1.b	Use the relative position of two numbers on a number line diagram to interpret statements of inequality
								6.SMC.NS.3.3-2.b	Write statements of order for rational numbers using real-world context
								6.SMC.NS.3.3-3.b	Interpret statements of order for rational numbers using real-world contexts
								6.SMC.NS.3.3-4.b	Explain statements of order for rational numbers using real-world contexts
								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
								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
								6.SMC.NS.3.3-7.c	Distinguish comparisons of absolute value from statements about order
								6.SMC.NS.3.4.c	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane
Strand: Expressions and Equations (EE)									
6.SMC.EE.1 Apply and extend previous understandings of arithmetic to algebraic expressions.									
								6.SMC.EE.1.1-1.a	Write numerical expressions involving whole-number exponents
								6.SMC.EE.1.1-2.a	Evaluate numerical expressions involving whole-number exponents
								6.SMC.EE.1.2-1.a	Write expressions that record operations with numbers and with letters standing for numbers
								6.SMC.EE.1.2-2.b	Identify parts of an expression using mathematical terminology
								6.SMC.EE.1.2-3.b	Describe one or more parts of an expression as a single entity
								6.SMC.EE.1.2-4.b	Evaluate expressions at specific values of their variables
								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
								6.SMC.EE.1.3.c	Apply the properties of operations to generate equivalent expressions
								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.									
								6.SMC.EE.2.1-1.b	Determine the set of values that make an equation or inequality true

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								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
								6.SMC.EE.2.2-1.b	Solve a real world or mathematical problem by writing expressions with variables representing numbers
								6.SMC.EE.2.2-2.b	Show that a variable represents an unknown number or any number in a specified set
								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
								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
								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
								6.SMC.EE.2.4-2.b	Show that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions
								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.									
								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
								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
								6.SMC.EE.3.1-3.c	Analyze the relationship between the dependent and independent variables using graphs and tables
								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
Strand: Geometry (G)									
6.SMC.G.1 Solve real-world and mathematical problems involving area, surface area, and volume.									
								6.SMC.G.1.1-1.a	Find the area of right triangles, non-right triangles, special quadrilaterals, and polygons by composing into rectangles
								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
								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
								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
								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
								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
								6.SMC.G.1.2-3.a	Solve real world and mathematical problems by applying the formula $V = lwh$ to find volumes of right rectangular prisms with fractional edge lengths
								6.SMC.G.1.2-4.a	Solve real world and mathematical problems by applying the formula $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths
								6.SMC.G.1.3-1.b	Draw polygons in the coordinate plane given coordinates for the vertices

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								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
								6.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
								6.SMC.G.1.4-1.c	Represent three-dimensional figures using nets made up of rectangles and triangles
								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
								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
Strand: Statistics and Probability (SP)									
6.SMC.SP.1 Develop understanding of statistical variability.									
								6.SMC.SP.1.1.a	Identify a statistical question
								6.SMC.SP.1.2.b	Identify the characteristics of a statistical distribution of a set of data
								6.SMC.SP.1.3-1.b	Locate a measure of center for a numerical data set
								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.									
								6.SMC.SP.2.1.a	Display numerical data in plots on a number line
								6.SMC.SP.2.2-1.b	Summarize numerical data sets in relation to their context by reporting the number of observations
								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
								6.SMC.SP.2.2-3.c	Summarize numerical data sets in relation to their context by using quantitative measures of center
								6.SMC.SP.2.2-4.c	Summarize numerical data sets in relation to their context by using quantitative measures of variability
								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
								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									
Strand: Solve Problems (MP1)									
6.SMP.1 1. Make sense of problems and persevere in solving them.									
								6.SMP.1.c	Make sense of problems and persevere in solving them
Strand: Reason (MP2)									
6.SMP.2 2. Reason abstractly and quantitatively.									
								6.SMP.2.c	Reason abstractly and quantitatively
Strand: Construct Arguments (MP3)									
6.SMP.3 3. Construct viable arguments and critique the reasoning of others.									
								6.SMP.3.c	Construct viable arguments and critique the reasoning of others
Strand: Model (MP4)									

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6.SMP.4 4. Model with mathematics.								
							6.SMP.4.c	Model with mathematics
Strand: Use Tools (MP5)								
6.SMP.5 5. Use appropriate tools strategically.								
							6.SMP.5.c	Use appropriate tools strategically
Strand: Attend to Precision (MP6)								
6.SMP.6 6. Attend to precision.								
							6.SMP.6.c	Attend to precision
Strand: Use Structure (MP7)								
6.SMP.7 7. Look for and make use of structure.								
							6.SMP.7.c	Look for and make use of structure
Strand: Express Regularity (MP8)								
6.SMP.8 8. Look for and express regularity in repeated reasoning.								
							6.SMP.8.c	Look for and express regularity in repeated reasoning