BENCHMARK SEQUENCE REPORT
MATHEMATICS GRADE 4 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									
Strand: *Operations and Algebraic Thinking (OA)*									
4.SMC.OA.1 Use the four operations with whole numbers to solve problems.									
								4.SMC.OA.1.1-1.a	Interpret a multiplication equation as a comparison
								4.SMC.OA.1.1-2.a	Represent verbal statements of multiplicative comparisons as multiplication equations
								4.SMC.OA.1.2-1.b	Multiply or divide to solve word problems involving multiplicative comparison
								4.SMC.OA.1.2-2.b	Distinguish multiplicative comparison from additive comparison
								4.SMC.OA.1.3-1.c	Solve multistep word problems involving whole numbers and having whole-number answers
								4.SMC.OA.1.3-2.c	Use equations with a letter standing for the unknown quantity to represent multistep word problems involving whole numbers and having whole-number answers
								4.SMC.OA.1.3-3.c	Use mental computation and estimation strategies to assess the reasonableness of answers to multistep word problems involving whole numbers and having whole number answers
4.SMC.OA.2 Gain familiarity with factors and multiples.									
								4.SMC.OA.2.4-1.b	Find all factor pairs for a whole number in the range 1–100
								4.SMC.OA.2.4-2.b	Relate a whole number to a multiple of each of its factors
								4.SMC.OA.2.4-3.b	Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number
								4.SMC.OA.2.4-4.b	Determine whether a given whole number in the range 1–100 is prime or composite
4.SMC.OA.3 Generate and analyze patterns.									
								4.SMC.OA.3.1-1.c	Generate a number or shape pattern that follows a given rule
								4.SMC.OA.3.1-2.c	Identify features of a number or shape pattern that were not explicit in the rule itself
								4.SMC.OA.3.1-3.c	Explain why a number pattern alternates between odd and even numbers
Strand: *Number and Operations in Base Ten (NBT)*									
4.SMC.NBT.1 Generalize place value understanding for multi-digit whole numbers.									
								4.SMC.NBT.1.1.a	Define the concept of place value by representing that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right
								4.SMC.NBT.1.2-1.a	Identify multi-digit whole numbers using base-ten numerals, number names and expanded form
								4.SMC.NBT.1.2-2.a	Write multi-digit whole numbers using base-ten numerals, number names and expanded form

								4.SMC.NBT.1.2-3.b	Record the results of comparisons between multi-digit numbers using the symbols >, =, and <
								4.SMC.NBT.1.3.b	Round multi-digit whole numbers to any place
4.SMC.NBT.2 Use place value understanding and properties of operations to perform multi-digit arithmetic.									
								4.SMC.NBT.2.1.a	Add and subtract multi-digit whole numbers fluently using the standard algorithm
								4.SMC.NBT.2.2-1.b	Use strategies based on place value and the properties of operations to multiply a whole number of up to four digits by a one-digit whole number
								4.SMC.NBT.2.2-2.b	Use strategies based on place value and the properties of operations to multiply two two-digit numbers
								4.SMC.NBT.2.2-3.c	Explain the calculation of multiplying a whole number of up to four digits by a one-digit whole number
								4.SMC.NBT.2.2-4.c	Explain the calculation of multiplying two two-digit numbers
								4.SMC.NBT.2.3-1.b	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors
								4.SMC.NBT.2.3-2.c	Explain the calculation of whole-number quotients and remainders with up to four-digit dividends and one-digit divisors
Strand: *Number and Operations - Fractions (NF)*									
4.SMC.NF.1 Extend understanding of fraction equivalence and ordering.									
								4.SMC.NF.1.1-1.a	Describe the relationship between a fraction a/b and its equivalent fraction (n × a)/(n × b) by using visual fraction models
								4.SMC.NF.1.1-2.b	Generate equivalent fractions using the principle that a fraction a/b is equivalent to a fraction (n × a)/(n × b)
								4.SMC.NF.1.2-1.b	Compare two fractions with different numerators and different denominators
								4.SMC.NF.1.2-2.b	Show that comparisons between two fractions with different numerators and denominators are valid only when the two fractions refer to the same whole
								4.SMC.NF.1.2-3.c	Record the results of comparisons of two fractions with different numerators and different denominators using symbols >, =, or <
4.SMC.NF.2 Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.									
								4.SMC.NF.2.1-1.a	Join parts referring to the same whole when adding fractions
								4.SMC.NF.2.1-2.a	Separate parts referring to the same whole when subtracting fractions
								4.SMC.NF.2.1-3.b	Write an equation recording the decomposition of a fraction into a sum of fractions with the same denominator
								4.SMC.NF.2.1-4.c	Justify the decomposition of a fraction into a sum of fractions with the same denominator
								4.SMC.NF.2.1-5.b	Add and subtract mixed numbers with like denominators
								4.SMC.NF.2.1-6.c	Solve word problems involving addition and subtraction of fractions having like denominators referring to the same whole
								4.SMC.NF.2.2-1.a	Demonstrate that a fraction a/b is a multiple of 1/b
								4.SMC.NF.2.2-2.b	Multiply a fraction by a whole number to show that a multiple of a/b is a multiple of 1/b
								4.SMC.NF.2.2-3.c	Solve word problems involving multiplication of a fraction by a whole number
4.SMC.NF.3 Understand decimal notation for fractions, and compare decimal fractions.									

								4.SMC.NF.3.1-1.b	Express a fraction with denominator 10 as an equivalent fraction with denominator 100
								4.SMC.NF.3.1-2.b	Add two fractions with respective denominators 10 and 100 by using the technique of expressing a fraction with denominator 10 as an equivalent fraction with denominator 10
								4.SMC.NF.3.2.b	Translate fractions with denominators 10 or 100 into decimals
								4.SMC.NF.3.3-1.c	Compare two decimals to the hundredth place
								4.SMC.NF.3.3-2.c	Show that comparisons between two decimals to the hundredth are valid only when the two decimals refer to the same whole
								4.SMC.NF.3.3-3.c	Record the results of comparisons of two decimals to hundredths with the symbols >, =, or <, and justify the conclusions
Strand: *Measurement and Data (MD)*									
4.SMC.MD.1 Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.									
								4.SMC.MD.1.1-1.a	Name relative sizes of measurement units within one system of measurement
								4.SMC.MD.1.1-2.b	Express measurements in a larger unit in terms of a smaller unit within a single system of measurement
								4.SMC.MD.1.1-3.b	Record measurement equivalents in a two column table within a single system of measurement
								4.SMC.MD.1.2-1.c	Use the four operations to solve word problems involving simple fractions
								4.SMC.MD.1.2-2.c	Use the four operations to solve word problems involving decimals
								4.SMC.MD.1.2-3.c	Use the four operations to solve word problems that require expressing measurements given in a larger unit in terms of a smaller unit
								4.SMC.MD.1.2-4.c	Represent measurement quantities using diagrams to solve word problems
								4.SMC.MD.1.3-1.c	Apply the area formula for rectangles in real world and mathematical problems
								4.SMC.MD.1.3-2.c	Apply the perimeter formula for rectangles in real world and mathematical problems
4.SMC.MD.2 Represent and interpret data.									
								4.SMC.MD.2.1-1.c	Make a line plot to display a data set of measurements in fractions of a unit
								4.SMC.MD.2.1-2.c	Solve problems involving addition and subtraction of fractions by using information presented in line plots
4.SMC.MD.3 Geometric measurement: understand concepts of angle and measure angles.									
								4.SMC.MD.3.1-1.b	Show that an angle is measured with reference to a circle with its center at the common endpoint of the rays
								4.SMC.MD.3.1-2.a	Show that an angle that turns through n one-degree angles has an angle measurement of n degrees
								4.SMC.MD.3.2-1.b	Measure angles in whole-number degrees using a protractor
								4.SMC.MD.3.2-2.b	Sketch angles of specified measure in whole-number degrees using a protractor
								4.SMC.MD.3.3-1.b	Show that angle measure is additive
								4.SMC.MD.3.3-2.c	Use a diagram to find unknown angles in solving real world addition and subtraction problems
Strand: *Geometry (G)*									

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4.SMC.G.1 Draw and identify lines and angles, and classify shapes by properties of their lines and angles.									
								4.SMC.G.1.1-1.a	Draw points, lines, line segments, rays, angles, perpendicular lines, and parallel lines
								4.SMC.G.1.1-2.a	Identify points, lines, line segments, rays, angles, perpendicular, and parallel lines in two-dimensional figures
								4.SMC.G.1.2-1.b	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines
								4.SMC.G.1.2-2.b	Classify two-dimensional figures based on the presence or absence of angles of a specified size
								4.SMC.G.1.2-3.b	Classify right triangles as a category of angles
								4.SMC.G.1.2-4.b	Identify right triangles
								4.SMC.G.1.3-1.b	Express a line of symmetry for a two-dimensional figure as a line across the figure
								4.SMC.G.1.3-2.c	Identify line-symmetric figures for a two-dimensional figure
								4.SMC.G.1.3-3.c	Draw lines of symmetry for a two-dimensional figure
DOMAIN: Standards for Mathematical Practices									
Strand: *Solve Problems (MP1)*									
4.SMP.1 1. Make sense of problems and persevere in solving them.									
								4.SMP.1.c	Make sense of problems and persevere in solving them
Strand: *Reason (MP2)*									
4.SMP.2 2. Reason abstractly and quantitatively.									
								4.SMP.2.c	Reason abstractly and quantitatively
Strand: *Construct Arguments (MP3)*									
4.SMP.3 3. Construct viable arguments and critique the reasoning of others.									
								4.SMP.3.c	Construct viable arguments and critique the reasoning of others
Strand: *Model (MP4)*									
4.SMP.4 4. Model with mathematics.									
								4.SMP.4.c	Model with mathematics
Strand: *Use Tools (MP5)*									
4.SMP.5 5. Use appropriate tools strategically.									
								4.SMP.5.c	Use appropriate tools strategically
Strand: *Attend to Precision (MP6)*									
4.SMP.6 6. Attend to precision.									
								4.SMP.6.c	Attend to precision
Strand: *Use Structure (MP7)*									
4.SMP.7 7. Look for and make use of structure.									
								4.SMP.7.c	Look for and make use of structure
Strand: *Express Regularity (MP8)*									
4.SMP.8 8. Look for and express regularity in repeated reasoning.									
								4.SMP.8.c	Look for and express regularity in repeated reasoning