BENCHMARK REPORT
MATHEMATICS GRADE 4

DOMAIN: Standards for Mathematical Content		
Status:	**OCS Code:**	**Strand: *Operations and Algebraic Thinking (OA)***
	4.SMC.OA.1	**Use the four operations with whole numbers to solve problems.**
Supporting	4.SMC.OA.1.1-1.a	Interpret a multiplication equation as a comparison
Focus	4.SMC.OA.1.1-2.a	Represent verbal statements of multiplicative comparisons as multiplication equations
Focus	4.SMC.OA.1.2-1.b	Multiply or divide to solve word problems involving multiplicative comparison
Supporting	4.SMC.OA.1.2-2.b	Distinguish multiplicative comparison from additive comparison
Focus	4.SMC.OA.1.3-1.c	Solve multistep word problems involving whole numbers and having whole-number answers
Supporting	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
Focus	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.**
Supporting	4.SMC.OA.2.4-1.b	Find all factor pairs for a whole number in the range 1–100
Supporting	4.SMC.OA.2.4-2.b	Relate a whole number to a multiple of each of its factors
Supporting	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
Supporting	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.**
Focus	4.SMC.OA.3.1-1.c	Generate a number or shape pattern that follows a given rule
Focus	4.SMC.OA.3.1-2.c	Identify features of a number or shape pattern that were not explicit in the rule itself
Supporting	4.SMC.OA.3.1-3.c	Explain why a number pattern alternates between odd and even numbers
Status:	**OCS Code:**	**Strand: *Number and Operations in Base Ten (NBT)***
	4.SMC.NBT.1	**Generalize place value understanding for multi-digit whole numbers.**
Supporting	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
Supporting	4.SMC.NBT.1.2-1.a	Identify multi-digit whole numbers using base-ten numerals, number names and expanded form
Focus	4.SMC.NBT.1.2-2.a	Write multi-digit whole numbers using base-ten numerals, number names and expanded form
Supporting	4.SMC.NBT.1.2-3.b	Record the results of comparisons between multi-digit numbers using the symbols >, =, and <
Supporting	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.**
Supporting	4.SMC.NBT.2.1.a	Add and subtract multi-digit whole numbers fluently using the standard algorithm
Focus	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
Supporting	4.SMC.NBT.2.2-2.b	Use strategies based on place value and the properties of operations to multiply two two-digit numbers
Focus	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
Supporting	4.SMC.NBT.2.2-4.c	Explain the calculation of multiplying two two-digit numbers
Focus	4.SMC.NBT.2.3-1.b	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors
Focus	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
Status:	**OCS Code:**	**Strand: *Number and Operations - Fractions (NF)***
	4.SMC.NF.1	**Extend understanding of fraction equivalence and ordering.**
Focus	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
Supporting	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)
Supporting	4.SMC.NF.1.2-1.b	Compare two fractions with different numerators and different denominators

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 4

Supporting	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
Supporting	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.**
Focus	4.SMC.NF.2.1-1.a	Join parts referring to the same whole when adding fractions
Supporting	4.SMC.NF.2.1-2.a	Separate parts referring to the same whole when subtracting fractions
Supporting	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
Supporting	4.SMC.NF.2.1-4.c	Justify the decomposition of a fraction into a sum of fractions with the same denominator
Focus	4.SMC.NF.2.1-5.b	Add and subtract mixed numbers with like denominators
Focus	4.SMC.NF.2.1-6.c	Solve word problems involving addition and subtraction of fractions having like denominators referring to the same whole
Supporting	4.SMC.NF.2.2-1.a	Demonstrate that a fraction a/b is a multiple of 1/b
Supporting	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
Supporting	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.**
Supporting	4.SMC.NF.3.1-1.b	Express a fraction with denominator 10 as an equivalent fraction with denominator 100
Supporting	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
Supporting	4.SMC.NF.3.2.b	Translate fractions with denominators 10 or 100 into decimals
Focus	4.SMC.NF.3.3-1.c	Compare two decimals to the hundredth place
Supporting	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
Supporting	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
Status:	**OCS Code:**	**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.**
Supporting	4.SMC.MD.1.1-1.a	Name relative sizes of measurement units within one system of measurement
Supporting	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
Supporting	4.SMC.MD.1.1-3.b	Record measurement equivalents in a two column table within a single system of measurement
Supporting	4.SMC.MD.1.2-1.c	Use the four operations to solve word problems involving simple fractions
Focus	4.SMC.MD.1.2-2.c	Use the four operations to solve word problems involving decimals
Focus	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
Focus	4.SMC.MD.1.2-4.c	Represent measurement quantities using diagrams to solve word problems
Focus	4.SMC.MD.1.3-1.c	Apply the area formula for rectangles in real world and mathematical problems
Focus	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.**
Focus	4.SMC.MD.2.1-1.c	Make a line plot to display a data set of measurements in fractions of a unit
Focus	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.**
Supporting	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
Supporting	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
Supporting	4.SMC.MD.3.2-1.b	Measure angles in whole-number degrees using a protractor
Supporting	4.SMC.MD.3.2-2.b	Sketch angles of specified measure in whole-number degrees using a protractor
Supporting	4.SMC.MD.3.3-1.b	Show that angle measure is additive
Supporting	4.SMC.MD.3.3-2.c	Use a diagram to find unknown angles in solving real world addition and subtraction problems

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BENCHMARK REPORT
MATHEMATICS GRADE 4

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

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