bridges® in mathematics

GRADE 4
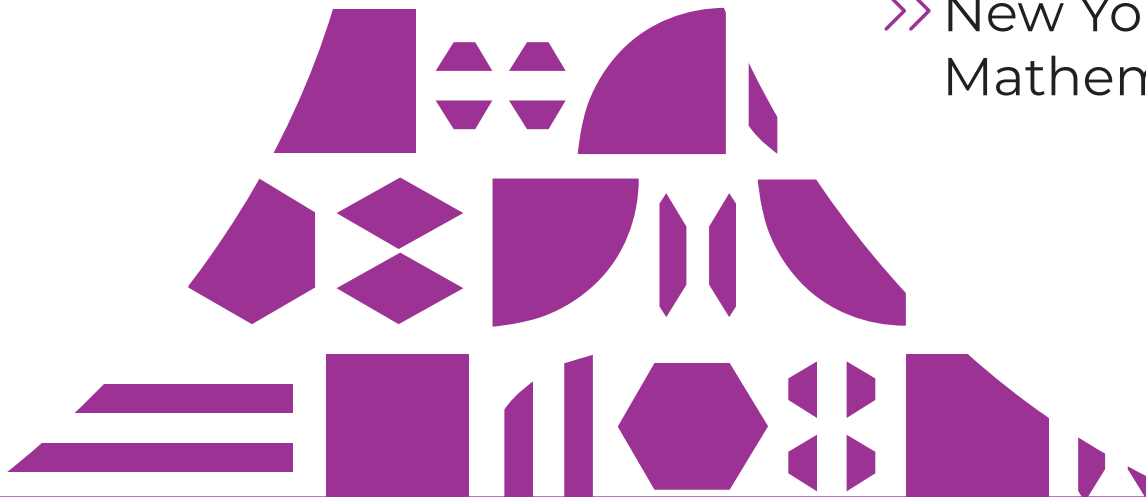
Bridges & Number Corner Third Edition »

CORRELATIONS

» New York State Next Generation Mathematics Learning Standards

number corner®

4 MP — Standards for Mathematical Practice

Standard	Descriptor	Citations	
	Standards for Mathematical Practice		
MP1	Make sense of problems and persevere in solving them.	**Bridges in Mathematics** Unit 2: M3 S5 Unit 3: M1 S2 Unit 4: M1 S5; M1 S6; M4 S1 Unit 5: M4 S2 Unit 6: M3 S2 Unit 7: M1 S1 Unit 8: M1 S1	**Number Corner** September: Solving Problems October: Calendar Grid, Solving Problems November: Solving Problems December: Solving Problems January: Solving Problems February: Computational Fluency, Number Strings, Solving Problems April: Calendar Grid
MP2	Reason abstractly and quantitatively.	**Bridges in Mathematics** Unit 1: M2 S1; M2 S2; M3 S3; M4 S3 Unit 2: M2 S4 Unit 4: M3 S1; M3 S2; M4 S1 Unit 5: M1 S4; M4 S2; M4 S3 Unit 6: M3 S3 Unit 8: M1 S3	**Number Corner** October: Calendar Grid November: Calendar Collector, Number Strings January: Calendar Grid February: Calendar Grid April: Calendar Collector
MP3	Construct viable arguments and critique the reasoning of others.	**Bridges in Mathematics** Unit 4: M2 S5 Unit 5: M2 S3 Unit 6: M3 S5 Unit 7: M1 S2; M1 S3; M1 S4; M1 S5; M1 S6 Unit 8: M2 S2; M3 S6	**Number Corner** September: Number, Strings, Solving Problems October: Computational Fluency, Solving Problems November: Number Strings December: Calendar Collector January: Number Strings, Solving Problems February: Solving Problems May: Calendar Grid
MP4	Model with mathematics.	**Bridges in Mathematics** Unit 2: M1 S3 Unit 5: M3 S1; M3 S2; M3 S3; M3 S4 Unit 6: M2 S1; M2 S2; M2 S3 Unit 8: M2 S5	**Number Corner** October: Solving Problems November: Solving Problems January: Calendar Collector February: Solving Problems April: Solving Problems May: Calendar Collector

Standard	Descriptor	Citations	
Standards for Mathematical Practice			
MP5	Use appropriate tools strategically.	**Bridges in Mathematics** Unit 3: M1 S4; M2 S3 Unit 4: M1 S5; M1 S6; M2 S4; M4 S2 Unit 5: M1 S5; M2 S3; M2 S5; M4 S1 Unit 6: M4 S1; M4 S2 Unit 8: M1 S2; M1 S5; M1 S6; M2 S1; M2 S3; M2 S4; M3 S1; M3 S3; M4 S2; M4 S3	**Number Corner** October: Number Strings November: Calendar Grid December: Calendar Collector, Number Strings February: Calendar Collector, Number Strings April: Solving Problems May: Calendar Collector, Solving Problems
MP6	Attend to precision.	**Bridges in Mathematics** Unit 4: M2 S1; M2 S2; M2 S3; M2 S4; M2 S5 Unit 5: M1 S6 Unit 7: M1 S1; M1 S6; M1 S7	**Number Corner** October: Calendar Collector November: Number Strings December: Number Strings January: Calendar Collector, Computational Fluency February: Calendar Collector, Solving Problems May: Computational Fluency
MP7	Look for and make use of structure.	**Bridges in Mathematics** Unit 1: M2 S1; M2 S2; M2 S3; M2 S4; M2 S5 Unit 3: M1 S5 Unit 5: M2 S2; M2 S3; M2 S5 Unit 6: M4 S3 Unit 7: M1 S5; M1 S6; M1 S7	**Number Corner** September: Computational Fluency October: Calendar Grid November: Computational Fluency December: Calendar Collector, Number Strings, Solving Problems January: Calendar Collector February: Calendar Grid, Number Strings May: Number Strings
MP8	Look for and express regularity in repeated reasoning.	**Bridges in Mathematics** Unit 1: M2 S1; M2 S2; M2 S5 Unit 4: M1 S5	**Number Corner** September: Computational Fluency October: Computational Fluency November: Computational Fluency December: Calendar Collector, Calendar Grid January: Calendar Grid February: Computational Fluency, Solving Problems March: Calendar Grid April: Computational Fluency May: Calendar Grid, Number Strings

4 NY-4.OA — Operations and Algebraic Thinking

Standard	Descriptor	Citations	
**Use the four operations with whole numbers to solve problems.**			
NY-4.OA.1	Interpret a multiplication equation as a comparison. Represent verbal statements of multiplicative comparisons as multiplication equations.	**Bridges in Mathematics** Unit 1: M1 S1; M1 S4; M3 S3; M3 S4	**Number Corner** November: Calendar Collector January: Calendar Grid April: Calendar Collector
NY-4.OA.2	Multiply or divide to solve word problems involving multiplicative comparison, distinguishing multiplicative comparison from additive comparison. Use drawings and equations with a symbol for the unknown number to represent the problem.	**Bridges in Mathematics** Unit 1: M1 S1; M1 S2; M1 S3; M1 S4; M3 S3 Unit 7: M3 S1	**Number Corner** September: Solving Problems
	NY-4.OA.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted.		
NY-4.OA.3.a	Represent these problems using equations or expressions with a letter standing for the unknown quantity.	**Bridges in Mathematics** Unit 1: M1 S2 Unit 2: M2 S5 Unit 6: M1 S6; M1 S7; M2 S1; M2 S3; M3 S3; M3 S5	**Number Corner** October: Computational Fluency, Solving Problems February: Solving Problems
NY-4.OA.3.b	Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	**Bridges in Mathematics** Unit 4: M1 S5; M1 S6 Unit 6: M3 S1; M3 S2; M3 S4 Unit 7: M3 S4; M3 S5; M4 S1	**Number Corner** October: Solving Problems November: Solving Problems January: Solving Problems February: Solving Problems

Standard	Descriptor	Citations
Gain familiarity with factors and multiples.		
NY-4.OA.4	Find all factor pairs for a whole number in the range 1 100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1 100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1 100 is prime or composite.	**Bridges in Mathematics** Unit 1: M2 S1; M2 S2; M2 S5; M3 S1; M3 S2 Unit 2: M4 S4 **Number Corner** September: Computational Fluency October: Computational Fluency November: Computational Fluency December: Computational Fluency
Generate and analyze patterns.		
NY-4.OA.5	Generate a number or shape pattern that follows a given rule. Identify and informally explain apparent features of the pattern that were not explicit in the rule itself.	**Bridges in Mathematics** Unit 1: M2 S1; M2 S2 Unit 2: M2 S5 **Number Corner** September: Calendar Grid November: Calendar Grid December: Calendar Grid January: Calendar Grid May: Calendar Grid

4 **NY-4.NBT** — Number and Operations in Base Ten

Standard	Descriptor	Citations	
Generalize place value understanding for multidigit whole numbers. Note: Grade 4 expectations are limited to whole numbers less than or equal to 1,000,000.			
NY-4.NBT.1	Recognize that in a multidigit whole number, a digit in one place represents ten times what it represents in the place to its right.	**Bridges in Mathematics** Unit 2: M1 S1; M1 S2 Unit 4: M1 S2; M1 S3; M1 S5; M2 S3; M2 S4; M2 S5	**Number Corner** September: Calendar Grid October: Calendar Collector
NY-4.NBT.2.a	Read and write multidigit whole numbers using base-ten numerals, number names, and expanded form.	**Bridges in Mathematics** Unit 4: M1 S1; M1 S2; M1 S3; M4 S1; M4 S2	**Number Corner** October: Calendar Collector November: Computational Fluency December: Calendar Collector
NY-4.NBT.2.b	Compare two multidigit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**Bridges in Mathematics** Unit 3: M3 S2; M3 S4; M4 S2; M4 S3 Unit 7: M2 S3	
NY-4.NBT.3	Use place value understanding to round multidigit whole numbers to any place.	**Bridges in Mathematics** Unit 4: M1 S1; M1 S3; M1 S4; M3 S1; M4 S1; M4 S2	**Number Corner** November: Solving Problems

Standard	Descriptor	Citations	
Use place value understanding and properties of operations to perform multidigit arithmetic. Note: Grade 4 expectations are limited to whole numbers less than or equal to 1,000,000.
NY-4.NBT.4	Fluently add and subtract multidigit whole numbers using a standard algorithm.	**Bridges in Mathematics** Unit 4: M1 S4; M1 S5. M1 S6; M1 S7; M2 S1; M2 S2; M2 S3; M2 S4; M2 S5	**Number Corner** November: Number Strings December: Number Strings
NY-4.NBT.5	Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Bridges in Mathematics** Unit 2: M1 S4; M1 S5; M2 S1; M2 S2; M2 S3; M3 S1; M3 S2; M3 S3 Unit 6: M1 S1; M1 S2; M1 S3 Unit 7: M3 S2; M3 S3; M3 S4; M4 S2; M4 S3	**Number Corner** September: Number Strings, Solving Problems October: Number Strings
NY-4.NBT.6	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	**Bridges in Mathematics** Unit 1: M1 S5; M1 S6 Unit 2: M4 S1; M4 S2; M4 S3; M4 S4 Unit 6: M1 S4; M1 S5; M1 S6; M1 S7	**Number Corner** January: Number Strings, Solving Problems April: Number Strings

4 **NY-4.NF** — Number and Operations: Fractions

Standard	Descriptor	Citations
Extend understanding of fraction equivalence and ordering. Note: Fractions are limited to those with denominators 2; 3; 4; 5; 6; 8, 10, 12; and 100.		
NY-4.NF.1	Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{(a \times n)}{(b \times n)}$ by using visual fraction models, with attention to how the number and size of the parts even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	**Bridges in Mathematics** Unit 3: M1 S3; M1 S4; M1 S5; M1 S6; M2 S1; M2 S3 Unit 7: M1 S1; M1 S2 **Number Corner** October: Calendar Grid March: Number Strings
NY-4.NF.2	Compare two fractions with different numerators and different denominators. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions.	**Bridges in Mathematics** Unit 3: M1 S1; M1 S2; M1 S3; M1 S4; M2 S3; M4 S3 Unit 7: M1 S2; M1 S3; M1 S4; M1 S5; M1 S6; M1 S7

Standard	Descriptor	Citations	
Extend understanding of fraction equivalence and ordering. Note: Fractions are limited to those with denominators 2; 3; 4; 5; 6; 8, 10, 12; and 100.			
	NY-4.NF.3 Understand a fraction $\frac{a}{b}$ with a > 1 as a sum of fractions $\frac{1}{b}$.		
NY-4.NF.3.a	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	**Bridges in Mathematics** Unit 3: M1 S3; M2 S4; M2 S5; M2 S6; M3 S3	**Number Corner** September: Calendar Collector February: Number Strings March: Calendar Collector
NY-4.NF.3.b	Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions.	**Bridges in Mathematics** Unit 3: M1 S5; M2 S2; M2 S4	**Number Corner** November: Calendar Collector January: Calendar Collector February: Number Strings
NY-4.NF.3.c	Add and subtract mixed numbers with like denominators.	**Bridges in Mathematics** Unit 3: M2 S3; M2 S4; M2 S5; M2 S6 Unit 6: M4 S3	**Number Corner** March: Calendar Collector April: Computational Fluency
NY-4.NF.3.d	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators.	**Bridges in Mathematics** Unit 3: M2 S5; M2 S6 Unit 6: M4 S2	

Standard	Descriptor	Citations	

Extend understanding of fraction equivalence and ordering. Note: Fractions are limited to those with denominators 2; 3; 4; 5; 6; 8, 10, 12; and 100.

	NY-4.NF.4 Apply and extend previous understandings of multiplication to multiply a whole number by a fraction.		
NY-4.NF.4.a	Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$.	**Bridges in Mathematics** Unit 3: M2 S1; M2 S2; M2 S6	**Number Corner** December: Solving Problems January: Calendar Collector May: Number Strings
NY-4.NF.4.b	Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a whole number by a fraction.	**Bridges in Mathematics** Unit 3: M2 S6	**Number Corner** December: Solving Problems January: Calendar Collector February: Number Strings April: Computational Fluency May: Number Strings
NY-4.NF.4.c	Solve word problems involving multiplication of a whole number by a fraction.	**Bridges in Mathematics** Unit 3: M2 S6	**Number Corner** December: Solving Problems January: Calendar Collector May: Number Strings

Understand decimal notation for fractions, and compare decimal fractions. Note: Grade 4 expectations are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.

NY-4.NF.5	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. **Note:** Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.	**Bridges in Mathematics** Unit 3: M3 S1; M3 S2; M3 S3; M4 S1 Unit 7: M2 S1; M2 S2; M2 S4	**Number Corner** October: Calendar Grid February: Computational Fluency, Number Strings March: Computational Fluency

Standard	Descriptor	Citations	
Understand decimal notation for fractions, and compare decimal fractions. Note: Grade 4 expectations are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.			
NY-4.NF.6	Use decimal notation for fractions with denominators 10 or 100.	**Bridges in Mathematics** Unit 3: M3 S1; M3 S2; M3 S3; M4 S1; M4 S2 Unit 7: M2 S1; M2 S3	**Number Corner** October: Calendar Grid February: Computational Fluency March: Computational Fluency
NY-4.NF.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions.	**Bridges in Mathematics** Unit 3: M3 S2; M3 S4; M4 S2; M4 S3 Unit 7: M2 S3	**Number Corner** February: Computational Fluency March: Computational Fluency May: Computational Fluency

④ NY-4.MD — Measurement and Data

Standard	Descriptor	Citations	
	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.		
NY-4.MD.1	Know relative sizes of measurement units: ft., in.; km, m, cm. Know the conversion factor and use it to convert measurements in a larger unit in terms of a smaller unit: ft., in.; km, m, cm; hr., min., sec. Given the conversion factor, convert all other measurements within a single system of measurement from a larger unit to a smaller unit. Record measurement equivalents in a two-column table.	**Bridges in Mathematics** Unit 1: M4 S1; M4 S2; M4 S3 Unit 2: M1 S3; M3 S4 Unit 4: M3 S1; M3 S2; M3 S3; M3 S4; M3 S5 Unit 8: M3 S2; M3 S5	**Number Corner** November: Calendar Collector April: Calendar Collector
	NY-4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money.		
NY-4.MD.2.a	Solve problems involving fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.	**Bridges in Mathematics** Unit 1: M4 S1; M4 S3 Unit 4: M3 S1; M3 S3; M3 S4; M3 S5 Unit 6: M4 S1; M4 S2 Unit 8: M3 S2; M3 S5	**Number Corner** November: Calendar Collector April: Calendar Collector
NY-4.MD.2.b	Represent measurement quantities using diagrams that feature a measurement scale, such as number lines.	**Bridges in Mathematics** Unit 4: M3 S1; M3 S3; M4 S1; M4 S2 Unit 5: M1 S6 Unit 6: M4 S1	

Standard	Descriptor	Citations	
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.			
NY-4.MD.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.	**Bridges in Mathematics** Unit 2: M1 S3; M1 S4; M1 S5 Unit 5: M3 S1; M3 S2; M3 S3; M3 S4 Unit 6: M2 S1; M2 S2; M2 S3; M2 S4; M2 S5 Unit 8: M3 S2; M3 S5	

Standard	Descriptor	Citations	
Represent and interpret data.			
NY-4.MD.4	Make a line plot to display a data set of measurements in fractions of a unit $(\frac{1}{2}, \frac{1}{4}, \frac{1}{8})$. Solve problems involving addition and subtraction of fractions by using information presented in line plots.	**Bridges in Mathematics** Unit 4: M4 S2 Unit 6: M4 S1; M4 S2	**Number Corner** April: Solving Problems

Standard	Descriptor	Citations
Geometric measurement: understand concepts of angle and measure angles.	
	NY-4.MD.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.	
NY-4.MD.5.a	Recognize an angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a "one-degree angle," and can be used to measure angles.	**Bridges in Mathematics** Unit 5: M1 S2; M1 S3; M1 S5
		Number Corner February: Calendar Collector
NY-4.MD.5.b	Recognize an angle that turns through n one-degree angles is said to have an angle measure of n degrees.	**Bridges in Mathematics** Unit 5: M1 S2; M1 S3; M4 S1; M4 S2
		Number Corner February: Calendar Collector

Standard	Descriptor	Citations	
Geometric measurement: understand concepts of angle and measure angles.			
NY-4.MD.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	**Bridges in Mathematics** Unit 5: M1 S4; M1 S5; M1 S6; M4 S1; M4 S2 Unit 8: M1 S4; M1 S5; M1 S6; M4 S1	**Number Corner** February: Calendar Collector
NY-4.MD.7	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.	**Bridges in Mathematics** Unit 5: M1 S3; M1 S4; M4 S2; M4 S3 Unit 8: M1 S6	**Number Corner** February: Calendar Grid

Standard	Descriptor	Citations	
	Draw and identify lines and angles, and classify shapes by properties of their lines and angles.		
NY-4.G.1	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.	**Bridges in Mathematics** Unit 5: M1 S3; M1 S4; M4 S2; M4 S3 Unit 8: M1 S6	**Number Corner** February: Calendar Grid
NY-4.G.2.a	Identify and name triangles based on angle size (right, obtuse, acute).	**Bridges in Mathematics** Unit 5: M2 S4; M2 S5	**Number Corner** January: Calendar Grid February: Calendar Grid March: Solving Problems May: Calendar Grid
NY-4.G.2.b	Identify and name all quadrilaterals with 2 pairs of parallel sides as parallelograms.	**Bridges in Mathematics** Unit 5: M2 S4; M2 S5; M2 S6; M4 S1 Unit 6: M1 S1	**Number Corner** January: Calendar Grid February: Calendar Grid

Standard	Descriptor	Citations	
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.
NY-4.G.2.c	Identify and name all quadrilaterals with four right angles as rectangles.	**Bridges in Mathematics** Unit 1: M2 S1; M2 S2 Unit 5: M2 S4; M2 S5; M3 S1; M3 S2; M3 S3 Unit 6: M2 S2; M2 S4	**Number Corner** March: Calendar Grid April: Calendar Grid
NY-4.G.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	**Bridges in Mathematics** Unit 5: M2 S2; M2 S3; M2 S5	**Number Corner** March: Calendar Grid, Solving Problems April: Calendar Grid May: Calendar Grid