bridges in mathematics

GRADE 5

Bridges & Number Corner Third Edition

CORRELATIONS

New York State Next Generation Mathematics Learning Standards

number corner

5 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 1: M1 S2; M3 S2 Unit 2: M1 S2; M2 S6; M3 S1 Unit 3: M1 S2; M4 S2 Unit 4: M1 S1; M2 S1; M3 S7 Unit 5: M1 S3; M2 S1; M3 S4 Unit 6: M1 S1; M2 S4; M4 S1 Unit 7: M1 S2; M2 S1 Unit 8: M2 S4; M4 S2	**Number Corner** October: Solving Problems November: Solving Problems December: Solving Problems January: Solving Problems March: Number Strings April: Solving Problems May: Solving Problems
MP2	Reason abstractly and quantitatively.	**Bridges in Mathematics** Unit 1: M1 S1; M3 S3; M4 S4 Unit 2: M1 S4; M3 S5 Unit 3: M1 S1; M2 S4; M4 S1 Unit 4: M2 S4; M3 S7; M4 S1 Unit 5: M1 S2; M2 S1; M3 S4 Unit 6: M1 S5; M3 S1 Unit 7: M1 S5; M2 S2 Unit 8: M2 S1; M4 S1	**Number Corner** September: Calendar Grid October: Computational Fluency November: Computational Fluency December: Solving Problems January Solving Problems February: Calendar Collector March: Computational Fluency April: Computational Fluency May: Calendar Collector, Solving Problems
MP3	Construct viable arguments and critique the reasoning of others.	**Bridges in Mathematics** Unit 1: M1 S1; M2 S4 Unit 2: M2 S2; M3 S5 Unit 3: M2 S6; M3 S4; M4 S2 Unit 4: M2 S1; M3 S5 Unit 5: M3 S1 Unit 6: M1 S5; M2 S2; M3 S2 Unit 7: M1 S3; M2 S2 Unit 8: M3 S3; M4 S3	**Number Corner** September: Calendar Grid, Solving Problems October: Computational Fluency November: Calendar Grid

Standard	Descriptor	Citations	
Standards for Mathematical Practice			
MP4	Model with mathematics.	**Bridges in Mathematics** Unit 1: M4 S5 Unit 2: M3 S1; M3 S3 Unit 3: M1 S4; M3 S4 Unit 4: M2 S2 Unit 5: M2 S5; M4 S1 Unit 6: M1 S2; M1 S3; M2 S1 Unit 7: M2 S3; M3 S4 Unit 8: M3 S1	**Number Corner** September: Solving Problems December: Calendar Collector March: Calendar Collector April: Calendar Collector, Solving Problems
MP5	Use appropriate tools strategically.	**Bridges in Mathematics** Unit 2: M1 S1; M2 S1; M3 S3 Unit 3: M4 S1 Unit 4: M2 S3 Unit 5: M2 S2; M4 S4 Unit 6: M1 S2; M2 S3 Unit 7: M2 S3; M4 S2 Unit 8: M1 S1; M4 S2	**Number Corner** October: Solving Problems, Number Strings November: Number Strings January: Number Strings February: Calendar Grid, Number Strings March: Number Strings April: Number Strings May: Calendar Grid
MP6	Attend to precision.	**Bridges in Mathematics** Unit 1: M1 S3; M3 S5 Unit 2: M2 S5; M4 S4 Unit 3: M1 S1; M2 S1; M3 S1 Unit 4: M1 S3; M3 S1 Unit 6: M1 S1; M3 S3 Unit 7: M2 S1 Unit 8: M1 S1 M4 S2	**Number Corner** September: Computational Fluency October: Computational Fluency November: Computational Fluency December: Calendar Collector January: Calendar Collector February: Computational Fluency, Solving Problems March: Calendar Collector April: Calendar Collector, Computational Fluency May: Computational Fluency

Standard	Descriptor	Citations	
Standards for Mathematical Practice			
MP7	Look for and make use of structure.	**Bridges in Mathematics** Unit 1: M1 S5; M2 S1 Unit 2: M1 S2; M3 S2; M4 S1 Unit 3: M1 S1; M2 S1; M4 S3 Unit 4: M3 S2 Unit 5: M1 S5; M4 S1 Unit 6: M1 S4; M2 S3 Unit 7: M3 S1; M4 S1	**Number Corner** September: Calendar Collector October: Calendar Collector November: Calendar Grid, Calendar Collector January: Calendar Grid, Number Strings February: Calendar Grid, Number Strings March: Calendar Grid, Number Strings April: Calendar Grid, Number Strings May: Calendar Grid, Number Strings
MP8	Look for and express regularity in repeated reasoning.	**Bridges in Mathematics** Unit 1: M1 S2; M1 S4; M1 S5; M2 S1 Unit 2: M1 S1 Unit 3: M1 S3; M2 S6; M4 S3 Unit 4: M3 S2 Unit 5: M1 S4; M2 S4 Unit 6: M1 S4 Unit 7 M3 S1	**Number Corner** September: Calendar Collector, Computational Fluency October: Number Strings November: Calendar Collector December: Calendar Grid January: Calendar Grid, Computational Fluency March: Calendar Grid April: Calendar Grid

5 NY-5.OA — Operations and Algebraic Thinking

Standard	Descriptor	Citations	
Write and interpret numerical expressions.			
NY-5.OA.1	Apply the order of operations to evaluate numerical expressions.	**Bridges in Mathematics** Unit 1: M1 S5; M2 S1; M2 S2; M2 S4; M3 S1; M3 S3; M3 S4 Unit 4: M3 S1 Unit 6: M1 S2; M1 S3 Unit 7: M1 S5	**Number Corner** September: Calendar Collector October: Computational Fluency November: Computational Fluency
NY-5.OA.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	**Bridges in Mathematics** Unit 1: M1 S4; M1 S5; M3 S3; M2 S1 Unit 8: M1 S1	**Number Corner** September: Calendar Collector November: Computational Fluency May: Solving Problems
Analyze patterns and relationships.			
NY-5.OA.3	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. From ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.	**Bridges in Mathematics** Unit 6: M1 S1; M1 S2; M1 S3; M1 S4; M1 S5; M1 S6; M1 S7	**Number Corner** October: Solving Problems January: Calendar Grid

5 NY-5.NBT — Number and Operations in Base Ten

Standard	Descriptor	Citations	
Understand the place value system.			
NY-5.NBT.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.	**Bridges in Mathematics** Unit 3: M1 S3; M1 S4; M1 S5; M2 S1	**Number Corner** November: Calendar Collector February: Solving Problems March: Calendar Grid
NY-5.NBT.2	Use whole-number exponents to denote powers of 10. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.	**Bridges in Mathematics** Unit 3: M1 S3; M1 S4; M3 S1 Unit 6: M1 S2 Unit 7: M3 S1; M3 S2; M3 S3	**Number Corner** November: Calendar Collector February: Calendar Collector, Solving Problems
	NY-5.NBT.3 Read, write, and compare decimals to thousandths.		
NY-5.NBT.3.a	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.	**Bridges in Mathematics** Unit 3: M1 S5; M2 S1; M2 S2; M2 S5; M2 S6; M2 S7 Unit 7: M3 S1; M3 S2; M3 S3	
NY-5.NBT.3.b	Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**Bridges in Mathematics** Unit 3: M1 S5; M2 S2	**Number Corner** March: Computational Fluency

Standard	Descriptor	Citations	
Understand the place value system.			
NY-5.NBT.4	Use place value understanding to round decimals to any place.	**Bridges in Mathematics** Unit 3: M2 S3	
Perform operations with multidigit whole numbers and with decimals to hundredths.			
NY-5.NBT.5	Fluently multiply multidigit whole numbers using a standard algorithm.	**Bridges in Mathematics** Unit 4: M1 S1; M1 S2; M1 S3; M2 S4; M3 S2; M3 S3; M3 S4; M3 S5; M3 S7	**Number Corner** February: Computational Fluency March: Solving Problems
NY-5.NBT.6	Find whole-number quotients of whole numbers with up to four-digit dividends and two-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: M3 S1; M3 S2; M3 S4; M3 S5; M4 S1; M4 S2; M4 S3; M4 S4; M4 S5 Unit 3: M4 S1; M4 S2; M4 S3 Unit 4: M1 S1; M4 S1; M4 S2; M4 S4 Unit 7: M1 S1; M1 S4; M2 S3; M2 S4	**Number Corner** February: Computational Fluency March: Solving Problems
NY-5.NBT.7	Using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between operations: add and subtract decimals to hundredths; multiply and divide decimals to hundredths. Relate the strategy to a written method and explain the reasoning used.	**Bridges in Mathematics** Unit 2: M3 S1 Unit 3: M1 S1; M2 S1; M2 S3; M2 S4; M3 S2; M3 S3; M3 S4 Unit 4: M1 S3; M1 S4; M2 S2; M2 S3; M2 S4 Unit 7: M3 S4; M4 S1; M4 S2; M4 S3	**Number Corner** September: Calendar Grid, Number Strings October: Solving Problems December: Solving Problems, Number Strings January: Calendar Collector, Number Strings February: Computational Fluency March: Computational Fluency, Solving Problems April: Calendar Collector

5 NY-5.NF — Number and Operations: Fractions

Standard	Descriptor	Citations	
Use equivalent fractions as a strategy to add and subtract fractions.			
NY-5.NF.1	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.	**Bridges in Mathematics** Unit 2: M1 S1; M1 S2; M1 S3; M1 S4; M1 S5; M2 S1; M2 S3; M2 S6; M3 S2; M3 S4; M3 S5; M4 S1; M4 S2 Unit 3: M1 S2 Unit 5: M1 S2; M1 S4	**Number Corner** October: Computational Fluency, Number Strings November: Number Strings December: Computational Fluency January: Computational Fluency March: Calendar Collector, Number Strings April: Computational Fluency May: Computational Fluency
NY-5.NF.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.	**Bridges in Mathematics** Unit 2: M2 S2; M2 S3; M2 S4; M3 S3; M3 S4; M4 S3	**Number Corner** December: Computational Fluency January: Calendar Collector March: Calendar Collector April: Solving Problems
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
NY-5.NF.3	Interpret a fraction as division of the numerator by the denominator ($\frac{a}{b}$ = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers.	**Bridges in Mathematics** Unit 1: M4 S3 Unit 2: M2 S5; M3 S1 Unit 7: M1 S2; M1 S3; M2 S5; M2 S6	**Number Corner** March: Computational Fluency

Standard	Descriptor	Citations	
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
	NY-5.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number or a fraction.		
NY-5.NF.4.a	Interpret the product $\frac{a}{b} \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.	**Bridges in Mathematics** Unit 2: M2 S1; M2 S2; M2 S3; M3 S4 Unit 7: M3 S2 Unit 8: M2 S3; M2 S4; M2 S5; M3 S2; M3 S3; M3 S4; M3 S5	
NY-5.NF.4.b	Find the area of a rectangle with fractional side lengths by tiling it with rectangles of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.	**Bridges in Mathematics** Unit 4: M2 S1 Unit 5: M1 S2; M1 S3; M1 S4; M1 S5; M2 S1; M2 S2; M2 S3; M2 S5; M3 S2 Unit 7: M1 S6	**Number Corner** November: Solving Problems February: Number Strings

Standard	Descriptor	Citations	
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
	NY-5.NF.5 Interpret multiplication as scaling (resizing).		
NY-5.NF.5.a	Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.	**Bridges in Mathematics** Unit 5: M1 S3; M2 S4; M3 S3	**Number Corner** February: Number Strings May: Computational Fluency
NY-5.NF.5.b	Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case). Explain why multiplying a given number by a fraction less than 1 results in a product smaller than the given number. Relate the principle of fraction equivalence $\frac{a}{b} = \frac{a}{b} \times \frac{n}{n}$ to the effect of multiplying $\frac{a}{b}$ by 1.	**Bridges in Mathematics** Unit 5: M1 S3; M2 S4; M3 S3	**Number Corner** February: Number Strings May: Computational Fluency
NY-5.NF.6	Solve real world problems involving multiplication of fractions and mixed numbers.	**Bridges in Mathematics** Unit 4: M2 S1 Unit 5: M1 S2; M1 S3; M1 S4; M1 S5; M2 S1; M2 S2; M2 S3; M2 S5; M3 S2 Unit 7: M1 S6	**Number Corner** November: Solving Problems February: Number Strings

Standard	Descriptor	Citations	
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
	NY-5.NF.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Note: Students able to multiply fractions in general can develop strategies to divide fractions in general, by reasoning about the relationship between multiplication and division. But division of a fraction by a fraction is not a requirement until grade 6 (NY-6.NS.1).		
NY-5.NF.7.a	Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.	**Bridges in Mathematics** Unit 5: M4 S4; M4 S5 Unit 7: M1 S2; M1 S3; M2 S1; M2 S2 Unit 8: M3 S4	**Number Corner** April: Number Strings May: Number Strings
NY-5.NF.7.b	Interpret division of a whole number by a unit fraction, and compute such quotients.	**Bridges in Mathematics** Unit 5: M4 S2; M4 S3; M4 S4; M4 S5 Unit 7: M1 S2; M1 S3; M2 S1; M2 S2 Unit 8: M3 S4	**Number Corner** April: Number Strings May: Number Strings
NY-5.NF.7.c	Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions.	**Bridges in Mathematics** Unit 5: M4 S2; M4 S3; M4 S4; M4 S5 Unit 7: M1 S2; M2 S1; M2 S2 Unit 8: M3 S4	

5 NY-5.MD — Measurement and Data

Standard	Descriptor	Citations	
Convert like measurements units within a given measurement system.			
NY-5.MD.1	Convert among different-sized standard measurement units within a given measurement system when the conversion factor is given. Use these conversions in solving multistep, real world problems.	**Bridges in Mathematics** Unit 3: M2 S7; M3 S1; M3 S2; M3 S3 Unit 4: M4 S3 Unit 6: M4 S3 Unit 8: M1 S1; M2 S3; M2 S5; M3 S3	**Number Corner** May: Calendar Collector
Represent and interpret data.			
NY-5.MD.2	Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.	**Bridges in Mathematics** Unit 6: M4 S2; M4 S3 Unit 8: M1 S3	**Number Corner** December: Calendar Collector March: Calendar Collector May: Calendar Collector

Standard	Descriptor	Citations	
Geometric measurement: understand concepts of volume and relate volume to multiplication and addition.			
	NY-5.MD.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.		
NY-5.MD.3.a	Recognize that a cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.	**Bridges in Mathematics** Unit 1: M1 S4; M1 S5; M2 S1; M2 S2 Unit 6: M3 S1; M3 S2	**Number Corner** October: Calendar Grid January: Solving Problems April: Calendar Grid
NY-5.MD.3.b	Recognize that a solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units.	**Bridges in Mathematics** Unit 1: M1 S5; M2 S1; M2 S2 Unit 6: M3 S1; M3 S2	**Number Corner** October: Calendar Grid January: Solving Problems April: Calendar Grid
NY-5.MD.4	Measure volumes by counting unit cubes, using cubic cm, cubic in., cubic ft., and improvised units.	**Bridges in Mathematics** Unit 1: M1 S5; M2 S2 Unit 6: M3 S1; M3 S2	**Number Corner** September: Calendar Collector October: Calendar Grid January: Solving Problems April: Calendar Grid

Standard	Descriptor	Citations	
Geometric measurement: understand concepts of volume and relate volume to multiplication and addition.			
	NY-5.MD.5 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.		
NY-5.MD.5.a	Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base.	**Bridges in Mathematics** Unit 1: M1 S5; M2 S1; M2 S2 Unit 6: M3 S1; M3 S2	**Number Corner** September: Calendar Collector January: Solving Problems April: Calendar Grid
NY-5.MD.5.b	Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.	**Bridges in Mathematics** Unit 1: M1 S5 Unit 6: M3 S1; M3 S2; M3 S3; M3 S4; M3 S5 Unit 8: M1 S5; M1 S6; M2 S2; M3 S3	
NY-5.MD.5.c	Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.	**Bridges in Mathematics** Unit 1: M1 S5; M2 S1; M2 S2 Unit 6: M3 S1	**Number Corner** October: Calendar Grid

5 NY-5.G — Geometry

Standard	Descriptor	Citations	
Graph points on the coordinate plane to solve real-world and mathematical problems.			
NY-5.G.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond.	**Bridges in Mathematics** Unit 6: M1 S1; M1 S2; M1 S3	**Number Corner** October: Calendar Collector November: Calendar Grid December: Calendar Collector May: Calendar Grid
NY-5.G.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	**Bridges in Mathematics** Unit 6: M1 S3; M1 S4; M1 S5; M1 S6 Unit 8: M1 S2; M1 S3; M1 S4; M2 S1; M2 S2; M2 S4; M2 S6; M3 S1; M4 S1	

Standard	Descriptor	Citations	
Classify two-dimensional figures into categories based on their properties.			
NY-5.G.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.	**Bridges in Mathematics** Unit 6: M2 S1; M2 S2; M2 S3; M2 S4	**Number Corner** December: Calendar Grid
NY-5.G.4	Classify two-dimensional figures in a hierarchy based on properties.	**Bridges in Mathematics** Unit 6: M2 S1; M2 S2; M2 S3; M2 S4; M3 S5	**Number Corner** November: Calendar Grid December: Calendar Grid