bridges in mathematics

GRADE 5

Bridges & Number Corner Third Edition

CORRELATIONS

North Carolina Standard Course of Study — Mathematics

number corner

5 SMP — Standards for Mathematics Practice

Standard	Descriptor	Citations	
Standards for Mathematics Practice			
SMP.1	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
SMP.2	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
SMP.3	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 Mathematics Practice			
SMP.4	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
SMP.5	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
SMP.6	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 Mathematics Practice			
SMP.7	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
SMP.8	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 OA — Operations and Algebraic Thinking

Standard	Descriptor	Citations	
Write and interpret numerical expressions.			
	Write, explain, and evaluate numerical expressions involving the four operations to solve up to two-step problems. Include expressions involving:		
NC.5.OA.2	• Parentheses, using the order of operations • Commutative, associative, and distributive properties	**Bridges in Mathematics** Unit 1: M1 S5; M2 S1; M2 S2; M2 S4; M3 S1; M3 S3; M3 S4 Unit 2: M2 S5 Unit 5: M1 S2; M1 S3; M1 S4 Unit 6: M1 S2; M1 S3 Unit 7: M1 S5 Unit 8: M1 S1	**Number Corner** September: Calendar Collector October: Computational Fluency November: Computational Fluency December: Number Strings April: Number Strings
Analyze patterns and relationships.			
	Generate two numerical patterns using two given rules.		
NC.5.OA.3	• Identify apparent relationships between corresponding terms. • Form ordered pairs consisting of corresponding terms from the two patterns. • 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 Unit 8: M1 S2; M1 S3; M1 S4; M2 S1; M3 S1; M4 S1	**Number Corner** October: Calendar Collector, Solving Problems December: Calendar Collector January: Calendar Grid

5 NBT — Number and Operations in Base Ten

Standard	Descriptor	Citations	
Understand the place value system.			
	Explain the patterns in the place value system from one million to the thousandths place.		
NC.5.NBT.1	• Explain that in a multidigit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. • Explain patterns in products and quotients when numbers are multiplied by 1,000, 100, 10, 0.1, and 0.01 and/or divided by 10 and 100.	**Bridges in Mathematics** Unit 3: M1 S3; M1 S4; M1 S5; M2 S1; M3 S1 Unit 6: M1 S2 Unit 7: M3 S1; M3 S2; M3 S3	**Number Corner** November: Calendar Collector February: Calendar Collector, Solving Problems March: Calendar Grid
	Read, write, and compare decimals to thousandths.		
NC.5.NBT.3	• Write decimals using base-ten numerals, number names, and expanded form. • Compare two decimals to thousandths based on the value of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**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	**Number Corner** September: Number Strings November: Number Strings March: Computational Fluency April: Computational Fluency

Standard	Descriptor	Citations	
Perform operations with multidigit whole numbers.			
NC.5.NBT.5	Demonstrate fluency with the multiplication of two whole numbers up to a three-digit number by a two-digit number using the standard algorithm.	**Bridges in Mathematics** Unit 4: M3 S1; M3 S3; M3 S4; M3 S5 Unit 8: M2 S3; M2 S5; M3 S3; M3 S4; M3 S5; M4 S1	**Number Corner** February: Computational Fluency March: Solving Problems, Calendar Grid
NC.5.NBT.6	Find quotients with remainders when dividing whole numbers with up to four-digit dividends and two-digit divisors using rectangular arrays, area models, repeated subtraction, partial quotients, and/or the relationship between multiplication and division. Use models to make connections and develop the algorithm.	**Bridges in Mathematics** Unit 1: M4 S3; M4 S4 Unit 3: M4 S1; M4 S3 Unit 4: M4 S3; M4 S1; M4 S4 Unit 7: M2 S3; M2 S4; M2 S5; M2 S6 Unit 8: M1 S5; M2 S3	**Number Corner** February: Computational Fluency March: Solving Problems

Standard	Descriptor	Citations	
Perform operations with decimals.			
	Compute and solve real-world problems with multidigit whole numbers and decimal numbers.		
NC.5.NBT.7	• Add and subtract decimals to thousandths using models, drawings or strategies based on place value. • Multiply decimals with a product to thousandths using models, drawings, or strategies based on place value. • Divide a whole number by a decimal and divide a decimal by a whole number, using repeated subtraction or area models. Decimals should be limited to hundredths. • Use estimation strategies to assess reasonableness of answers.	**Bridges in Mathematics** Unit 3: M1 S3; M2 S1; M2 S2; M2 S3; M2 S4; M3 S2; M3 S3; M3 S4 Unit 4: M1 S2; M1 S4; M2 S1; M2 S2 Unit 6: M1 S2 Unit 7: M3 S4; M4 S1; M4 S2; M4 S3 Unit 8: M2 S3; M2 S5; M3 S2; M3 S3; M3 S4; M3 S5	**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 NF — Number and Operations: Fractions

Standard	Descriptor	Citations	
Use equivalent fractions as a strategy to add and subtract fractions.			
	Add and subtract fractions, including mixed numbers, with unlike denominators using related fractions: halves, fourths and eighths; thirds, sixths, and twelfths; fifths, tenths, and hundredths.		
NC.5.NF.1	• Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. • Solve one- and two-step word problems in context using area and length models to develop the algorithm. Represent the word problem in an equation.	*The concept of "benchmark fractions" is not included in the grade 5 program.*	
		Bridges in Mathematics Unit 2: M1 S1; M1 S2; M1 S3; M1 S4; M1 S5; M2 S1; M2 S2; M2 S3; M2 S4; M2 S6; M3 S2; M3 S3; M3 S4; M3 S5; M4 S1; M4 S2; M4 S3 Unit 3: M1 S2 Unit 5: M1 S2; M1 S4	**Number Corner** October: Computational Fluency, Number Strings November: Number Strings December: Computational Fluency January: Calendar Collector, Computational Fluency March: Calendar Collector, Number Strings April: Computational Fluency, Solving Problems May: Computational Fluency

Standard	Descriptor	Citations	
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
	Use fractions to model and solve division problems.		
NC.5.NF.3	• Interpret a fraction as an equal sharing context, where a quantity is divided into equal parts. • Model and interpret a fraction as the division of the numerator by the denominator. • Solve one-step word problems involving division of whole numbers leading to answers in the form of fractions and mixed numbers, with denominators of 2, 3, 4, 5, 6, 8, 10, and 12, using area, length, and set models or equations.	**Bridges in Mathematics** Unit 1: M4 S3 Unit 2: M2 S5; M3 S1; M3 S2 Unit 3: M2 S5 Unit 5: M3 S1; M4 S4 Unit 7: M1 S2; M1 S3; M2 S5; M2 S6	**Number Corner** November: Solving Problems March: Computational Fluency April: Number Strings May: Number Strings

Standard	Descriptor	Citations	
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.			
	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction, including mixed numbers.		
NC.5.NF.4	• Use area and length models to multiply two fractions, with the denominators 2, 3, 4. • Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number and when multiplying a given number by a fraction less than 1 results in a product smaller than the given number. • Solve one-step word problems involving multiplication of fractions using models to develop the algorithm.	**Bridges in Mathematics** Unit 2: M2 S4 Unit 4: M2 S1; M2 S2; M2 S4; M3 S1 Unit 5: M1 S2; M1 S3; M1 S4; M2 S1; M2 S2; M2 S3; M2 S4; M2 S5; M3 S1; M3 S2; M3 S3; M3 S4 Unit 6: M4 S1; M4 S2; M4 S3 Unit 7: M1 S6 Unit 8: M1 S1; M2 S4; M2 S5; M3 S2; M3 S3; M3 S4; M3 S5	
NC.5.NF.7	Solve one-step word problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions using area and length models, and equations to represent the problem.	**Bridges in Mathematics** Unit 5: M4 S2; M4 S3; M4 S4; M4 S5 Unit 7: M1 S2; M2 S1; M2 S2; M2 S3 Unit 8: M2 S5	**Number Corner** April: Number Strings May: Number Strings

5 MD — Measurement and Data

Standard	Descriptor	Citations	
Convert like measurement units within a given measurement system.			
NC.5.MD.1	Given a conversion chart, use multiplicative reasoning to solve one-step conversion problems within a given measurement system.	**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; M3 S4; M3 S5; M4 S1	**Number Corner** January: Calendar Collector February: Calendar Collector, Solving Problems May: Calendar Collector
Represent and interpret data.			
NC.5.MD.2	Represent and interpret data. • Collect data by asking a question that yields data that changes over time. • Make and interpret a representation of data using a line graph. • Determine whether a survey question will yield categorical or numerical data, or data that changes over time.	*Determining the type of data a survey will yield is beyond the scope of the grade 5 program.* **Bridges in Mathematics** Unit 6: M4 S2; M4 S3 Unit 8: M1 S2; M1 S3; M1 S4; M2 S1; M2 S4; M2 S6; M3 S1	**Number Corner** December: Calendar Collector March: Calendar Collector
Understand concepts of volume.			
NC.5.MD.4	Recognize volume as an attribute of solid figures and measure volume by counting unit cubes, using cubic centimeters, cubic inches, cubic feet, and improvised units.	**Bridges in Mathematics** Unit 1: M1 S4; M1 S5; M2 S1; 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	
Understand concepts of volume.			
	Relate volume to the operations of multiplication and addition.		
NC.5.MD.5	• Find the volume of a 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. • Build understanding of the volume formula for rectangular prisms with whole-number edge lengths in the context of solving problems. • Find volume of solid figures with one-digit dimensions composed of two non-overlapping rectangular prisms.	**Bridges in Mathematics** Unit 1: M1 S5; M2 S1; M2 S2 Unit 6: M3 S1; M3 S2; M3 S3; M3 S4; M3 S5 Unit 8: M1 S5; M1 S6; M2 S2; M3 S3	**Number Corner** September: Calendar Collector October: Calendar Grid January: Solving Problems April: Calendar Grid

5 G — Geometry

Standard	Descriptor	Citations	
Understand the coordinate plane.			
NC.5.G.1	Graph points in the first quadrant of a coordinate plane and identify and interpret the x and y coordinates to solve problems.	**Bridges in Mathematics** Unit 6: M1 S3 Unit 8: M1 S2; M1 S3; M1 S4; M2 S1; M2 S2; M2 S4; M2 S6; M3 S1; M4 S1	**Number Corner** October: Calendar Collector November: Calendar Grid December: Calendar Collector May: Calendar Grid
Classify quadrilaterals.			
	Classify quadrilaterals into categories based on their properties.		
NC.5.G.2	• Explain that attributes belonging to a category of quadrilaterals also belong to all subcategories of that category. • Classify quadrilaterals in a hierarchy based on properties.	**Bridges in Mathematics** Unit 6: M2 S2; M2 S3; M2 S4; M3 S5	**Number Corner** November: Calendar Grid December: Calendar Grid