bridges in mathematics

GRADE 4

Bridges & Number Corner Third Edition

CORRELATIONS

North Carolina Standard Course of Study — Mathematics

number corner

4 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 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
SMP.2	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
SMP.3	Construct viable arguments and critique the reasoning of others.	**Bridges in Mathematics** Unit 4: M2 S5 Unit 5: M2 S3 Unit 6: M3 S4 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
SMP.4	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 Mathematics Practice			
SMP.5	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
SMP.6	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
SMP.7	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
SMP.8	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 OA — Operations and Algebraic Thinking

Standard	Descriptor	Citations	
Represent and solve problems involving multiplication and division.			
NC.4.OA.1	Interpret a multiplication equation as a comparison. Multiply or divide to solve word problems involving multiplicative comparisons using models and equations with a symbol for the unknown number. Distinguish multiplicative comparison from additive comparison.	**Bridges in Mathematics** Unit 1: M1 S1; M1 S2; M1 S3; M1 S4; M3 S3; M3 S4 Unit 7: M3 S1	**Number Corner** September: Solving Problems November: Calendar Collector January: Calendar Grid April: Calendar Collector
	Solve two-step word problems involving the four operations with whole numbers.		
NC.4.OA.3	• Use estimation strategies to assess reasonableness of answers. • Interpret remainders in word problems. • Represent problems using equations with a letter standing for the unknown quantity.	**Bridges in Mathematics** Unit 6: M1 S2; M2 S2; M3 S1; M3 S2; M3 S3; M3 S4 Unit 7: M3 S4; M3 S5; M4 S1	**Number Corner** October: Solving Problems November: Solving Problems January: Solving Problems February: Solving Problems May: Solving Problems

Standard	Descriptor	Citations	
Gain familiarity with factors and multiples.			
	Find all factor pairs for whole numbers up to and including 50 to:		
NC.4.OA.4	• Recognize that a whole number is a multiple of each of its factors. • Determine whether a given whole number is a multiple of a given one-digit number. • Determine if the number is prime or composite.	**Bridges in Mathematics** Unit 1: M2 S1; M2 S2; M2 S5; M3 S1; M3 S2 Unit 2: M1 S3; M2 S4; M4 S4	**Number Corner** September: Computational Fluency October: Computational Fluency November: Computational Fluency December: Computational Fluency
Generate and analyze patterns.			
NC.4.OA.5	Generate and analyze a number or shape pattern that follows a given rule.	**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 NBT — Number and Operations in Base Ten

Standard	Descriptor	Citations	
Generalize place value understanding for multidigit numbers whole numbers.			
NC.4.NBT.1	Explain that in a multidigit whole number, a digit in one place represents 10 times as much as it represents in the place to its right, up to 100,000.	**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
NC.4.NBT.2	Read and write multidigit whole numbers up to and including 100,000 using 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
NC.4.NBT.7	Compare two multi-digit numbers up to and including 100,000 based on the values of the digits in each place, using >, =, and < symbols to record the results of comparisons.	**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
Use place value understanding and properties of operations to perform multidigit arithmetic.			
NC.4.NBT.4	Add and subtract multidigit whole numbers up to and including 100,000 using the standard algorithm with place value understanding.	**Bridges in Mathematics** Unit 4: M1 S4; M1 S5. M1 S6; M1 S7; M2 S1; M2 S2; M2 S3; M2 S4; M2 S5 Unit 5: M3 S2; M3 S3; M4 S2; M4 S3 Unit 6: M2 S3; M2 S4	**Number Corner** November: Number Strings December: Number Strings

Standard	Descriptor	Citations	
Use place value understanding and properties of operations to perform multidigit arithmetic.			
NC.4.NBT.5	Multiply a whole number of up to three digits by a one-digit whole number and multiply up to two two-digit numbers with place value understanding using area models, partial products, and the properties of operations. Use models to make connections and develop the algorithm.	**Bridges in Mathematics** Unit 2: M1 S4; M1 S5; M2 S1; M2 S2; M2 S3; M3 S1; M3 S2; M3 S3 Unit 5: M3 S1; M3 S4 Unit 6: M1 S1; M1 S2; M1 S3 Unit 7: M3 S1; M3 S2; M3 S3; M3 S4; M3 S5; M4 S1; M4 S2; M4 S3	**Number Corner** September: Number Strings, Solving Problems October: Number Strings
NC.4.NBT.6	Find whole-number quotients and remainders with up to three-digit dividends and one-digit divisors with place value understanding using rectangular arrays, area models, repeated subtraction, partial quotients, properties of operations, and/or the relationship between multiplication and division.	**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 NF — Number and Operations: Fractions

Standard	Descriptor	Citations	
Extend understanding of fractions.			
NC.4.NF.1	Explain why a fraction is equivalent to another fraction by using area and length fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size.	**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** September: Calendar Collector October: Calendar Grid November: Calendar Collector January: Computational Fluency February: Computational Fluency, Number Strings March: Calendar Collector, Computational Fluency, Number Strings
NC.4.NF.2	Compare two fractions with different numerators and different denominators, using the denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. 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 by: • Reasoning about their size and using area and length models. • Using benchmark fractions 0, ½, and a whole. • Comparing common numerator or common denominators.	**Bridges in Mathematics** Unit 3: M1 S1; M1 S2; M1 S3; M1 S4; M2 S3; M4 S3 Unit 7: M1 S1; M1 S2; M1 S3; M1 S4; M1 S5; M1 S6; M1 S7	**Number Corner** October: Calendar Grid January: Computational Fluency February: Computational Fluency

Standard	Descriptor	Citations	
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.			
	Understand and justify decompositions of fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100.		
NC.4.NF.3	• Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. • Decompose a fraction into a sum of unit fractions and a sum of fractions with the same denominator in more than one way using area models, length models, and equations. • Add and subtract fractions, including mixed numbers with like denominators, by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction. • Solve word problems involving addition and subtraction of fractions, including mixed numbers by writing equations from a visual representation of the problem.	**Bridges in Mathematics** Unit 3: M1 S3; M2 S3; M2 S4; M2 S5; M2 S6; M3 S3 Unit 6: M4 S2; M4 S3 Unit 7: M1 S1	**Number Corner** September: Calendar Collector November: Calendar Collector January: Calendar Collector February: Computational Fluency, Number Strings March: Calendar Collector April: Computational Fluency

Standard	Descriptor	Citations	
Use unit fractions to understand operations of fractions.			
	Apply and extend previous understandings of multiplication to:		
NC.4.NF.4	• Model and explain how fractions can be represented by multiplying a whole number by a unit fraction, using this understanding to multiply a whole number by any fraction less than one. • Solve word problems involving multiplication of a fraction by a whole number.	**Bridges in Mathematics** Unit 3: M1 S2; M2 S1; M2 S2; M2 S6	**Number Corner** December: Solving Problems January: Calendar Collector February: Number Strings April: Computational Fluency May: Number Strings
Understand decimal notation for fractions and compare decimal fractions.			
	Use decimal notation to represent fractions.		
NC.4.NF.6	• Express, model and explain the equivalence between fractions with denominators of 10 and 100. • Use equivalent fractions to add two fractions with denominators of 10 or 100. • Represent tenths and hundredths with models, making connections between fractions and decimals.	**Bridges in Mathematics** Unit 3: M3 S1; M3 S2; M3 S3; M4 S1; M4 S2; M4 S3 Unit 7: M2 S1; M2 S2; M2 S3	**Number Corner** October: Calendar Grid February: Computational Fluency, Number Strings March: Computational Fluency May: Computational Fluency

Standard	Descriptor	Citations	
Understand decimal notation for fractions and compare decimal fractions.			
NC.4.NF.7	Compare two decimals to hundredths by reasoning about their size using area and length models and recording the results of comparisons with the symbols >, =, or <. Recognize that comparisons are valid only when the two decimals refer to the same whole.	**Bridges in Mathematics** Unit 3: M3 S1; M3 S2; M3 S4; M4 S2; M4 S3 Unit 7: M2 S3	**Number Corner** February: Computational Fluency March: Computational Fluency May: Computational Fluency

4 MD — Measurement and Data

Standard	Descriptor	Citations	
Solve problems involving measurement.			
	Know relative sizes of measurement units. Solve problems involving metric measurement.		
NC.4.MD.1	• Measure to solve problems involving metric units: centimeter, meter, gram, kilogram, liter, milliliter. • Add, subtract, multiply, and divide to solve one-step word problems involving whole-number measurements of length, mass, and capacity that are given in metric units.	**Bridges in Mathematics** Unit 1: M4 S1; M4 S2; M4 S3 Unit 2: M1 S3; M3 S4 Unit 4: M3 S1; M3 S2; M3 S4; M3 S5 Unit 8: M3 S5; M3 S6	**Number Corner** November: Calendar Collector April: Calendar Collector May: Calendar Collector, Solving Problems
NC.4.MD.2	Use multiplicative reasoning to convert metric measurements from a larger unit to a smaller unit using place value understanding, two-column tables, and length models.	**Bridges in Mathematics** Unit 1: M4 S2; M4 S3 Unit 4: M3 S1; M3 S2; M3 S4; M3 S5 Unit 8: M3 S5; M3 S6	**Number Corner** November: Calendar Collector April: Calendar Collector May: Solving Problems
NC.4.MD.8	Solve word problems involving addition and subtraction of time intervals that cross the hour.	**Bridges in Mathematics** Unit 4: M3 S1; M3 S3	**Number Corner** November: Calendar Grid

Standard	Descriptor	Citations	
Solve problems involving area and perimeter.			
	Solve problems with area and perimeter.		
NC.4.MD.3	• Find areas of rectilinear figures with known side lengths. • Solve problems involving a fixed area and varying perimeters and a fixed perimeter and varying areas. • 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	**Number Corner** December: Computational Fluency
Represent and interpret data.			
	Represent and interpret data using whole numbers.		
NC.4.MD.4	• Collect data by asking a question that yields numerical data. • Make a representation of data and interpret data in a frequency table, scaled bar graph, and/or line plot. • Determine whether a survey question will yield categorical or numerical data.	*While students work with both types of data, they do not explicitly differentiate between categorical and numerical data.* **Bridges in Mathematics** Unit 4: M4 S2 Unit 6: M4 S1; M4 S2 Unit 8: M1 S1; M1 S2; M1 S3; M1 S4; M2 S2; M2 S3; M2 S4; M2 S5; M3 S4	**Number Corner** April: Calendar Collector, Solving Problems

Standard	Descriptor	Citations	
Understand concepts of angle and measure angles.			
	Develop an understanding of angles and angle measurement.		
NC.4.MD.6	• Understand angles as geometric shapes that are formed wherever two rays share a common endpoint and are measured in degrees. • Measure and sketch angles in whole-number degrees using a protractor. • Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems.	**Bridges in Mathematics** Unit 5: M1 S2; M1 S3; 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

4 G — Geometry

Standard	Descriptor	Citations	
Classify shapes based on lines and angles in two-dimensional figures.			
NC.4.G.1	Draw and identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.	**Bridges in Mathematics** Unit 5: M1 S1; M1 S2; M1 S3; M1 S4; M1 S5; M2 S1; M2 S2; M2 S4; M2 S5; M2 S6	**Number Corner** February: Calendar Grid
NC.4.G.2	Classify quadrilaterals and triangles based on angle measure, side lengths, and the presence or absence of parallel or perpendicular lines.	**Bridges in Mathematics** Unit 5: M1 S1; M2 S4; M2 S5; M2 S6	**Number Corner** February: Calendar Grid March: Solving Problems
NC.4.G.3	Recognize symmetry in a two-dimensional figure and identify 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