bridges in mathematics

GRADE 5

Bridges & Number Corner Third Edition

CORRELATIONS

Virginia Mathematics Standards of Learning

number corner

5 Number and Number Sense

Standard	Descriptor	Citations	
5.NS.1	The student will use reasoning and justification to identify and represent equivalency between fractions (with denominators that are thirds, eighths, and factors of 100) and decimals; and compare and order sets of fractions (proper, improper, and/or mixed numbers having denominators of 12 or less) and decimals (through thousandths). The student will:		
5.NS.1.a	Use concrete and pictorial models to represent fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form.*	*Students do not use concrete or pictorial models to represent fractions with denominators that are thirds or eighths in their equivalent decimal form.*	
		Bridges in Mathematics Unit 2: M1–S1, M1–S2, M1–S3, M1–S4, M1–S5; M2–S4	**Number Corner** October: Number Strings November: Number Strings
5.NS.1.b	Use concrete and pictorial models to represent decimals in their equivalent fraction form (thirds, eighths, and factors of 100).*	*Students do not use concrete or pictorial models to represent decimals in their equivalent fraction form using thirds or eights.*	
		Bridges in Mathematics Unit 2: M1–S1, M1–S2, M1–S3 Unit 3: M1–S4, M1–S5; M2–S1	**Number Corner** September: Calendar Grid April: Computational Fluency
5.NS.1.c	Identify equivalent relationships between decimals and fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form, with and without models.*	*Students do not identify equivalent relationships between decimals and fractions with denominators that are thirds.*	
		Bridges in Mathematics Unit 2: M1–S1, M1–S2, M1–S3 Unit 3: M1–S4, M1–S5; M2–S1	**Number Corner** September: Calendar Grid April: Computational Fluency

** On the state assessment, items measuring this objective are assessed without the use of a calculator.*

Standard	Descriptor	Citations	
5.NS.1	The student will use reasoning and justification to identify and represent equivalency between fractions (with denominators that are thirds, eighths, and factors of 100) and decimals; and compare and order sets of fractions (proper, improper, and/or mixed numbers having denominators of 12 or less) and decimals (through thousandths). The student will:		
5.NS.1.d	Compare (using symbols <, >, =) and order (least to greatest and greatest to least) a set of no more than four decimals and fractions (proper, improper) and/or mixed numbers using multiple strategies (e.g., benchmarks, place value, number lines). Justify solutions orally, in writing, or with a model.*	**Bridges in Mathematics** Unit 2: M1–S3 (Daily Practice), M1–S5 Unit 3: M1–S5; M2–S1 (Daily Practice); M2–S2, M2–S3 (Home Connection)	**Number Corner** March: Computational Fluency April: Computational Fluency

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5.NS.2	The student will demonstrate an understanding of prime and composite numbers, and determine the prime factorization of a whole number up to 100. The student will:		
5.NS.2.a	Given a whole number up to 100, create a concrete or pictorial representation to demonstrate whether the number is prime or composite, and justify reasoning.	**Bridges in Mathematics** Unit 1: M2–S1, M2–S2, M2–S3, M2–S4	
		The grade 4 curriculum addresses 5.NS.2.a in the following sections:	
		Bridges in Mathematics Unit 1: M2–S2, M3–S1	
5.NS.2.b	Classify, compare, and contrast whole numbers up to 100 using the characteristics prime and composite.	**Bridges in Mathematics** Unit 1: M2–S1, M2–S2, M2–S3, M2–S4	**Number Corner** September: Computational Fluency

Standard	Descriptor	Citations	
5.NS.2	The student will demonstrate an understanding of prime and composite numbers, and determine the prime factorization of a whole number up to 100. The student will:		
5.NS.2.c	Determine the prime factorization for a whole number up to 100.	**Bridges in Mathematics** Unit 1: M2–S3, M2–S4	**Number Corner** September: Computational Fluency
5.NS.2.d	Nihitate necta exceperepe eostrumquae nus disquam et resti ducius, tem quam re ratem.	**Bridges in Mathematics** Unit 3: M3–S2, p. 91	**Number Corner** September: Calendar Collector

5 Computation and Estimation

Standard	Descriptor	Citations	
5.CE.1	The student will estimate, represent, solve, and justify solutions to single-step and multistep contextual problems using addition, subtraction, multiplication, and division with whole numbers. The student will:		
5.CE.1.a	Estimate the sum, difference, product, and quotient of whole numbers in contextual problems.	**Bridges in Mathematics** Unit 3: M4–S1 Unit 4: M3–S1, M3–S3 Unit 7: M1–S2, M1–S3	
	5.CE.1.b Represent, solve, and justify solutions to single-step and multistep contextual problems by applying strategies (e.g., estimation, properties of addition and multiplication) and algorithms, including the standard algorithm, involving addition, subtraction, multiplication, and division of whole numbers, with and without remainders, in which:		
5.CE.1.b.i	sums, differences, and products do not exceed five digits;	**Bridges in Mathematics** Unit 1: M1–S5; M2–S1 (Home Connections); M3–S1 Unit 3: M4–S2 Unit 4: M1–S1; M3–S7 Unit 6: M3–S3 (Daily Practice)	**Number Corner** February: Solving Problems
5.CE.1.b.ii	factors do not exceed two digits by three digits;	**Bridges in Mathematics** Unit 1: M3–S1, M3–S3 (Daily Practice), M3–S4 (Daily Practice); M4–S1 Unit 4: M1–S1; M4–S2	**Number Corner** February: Computational Fluency March: Solving Problems
5.CE.1.b.iii	divisors do not exceed two digits; or	**Bridges in Mathematics** Unit 4: M1–S1, M1–S3 (Home Connection); M3–S7; M4–S2 Unit 7: M1–S2; M2–S5, M2–S6 (Home Connection)	**Number Corner** March: Solving Problems
5.CE.1.b.iv	dividends do not exceed four digits.	**Bridges in Mathematics** Unit 1: M3–S5 Unit 4: M1–S1, M1–S3 (Home Connection); M3–S7; M4–S2 Unit 7: M1–S2; M2–S5	**Number Corner** March: Solving Problems
5.CE.1.c	Interpret the quotient and remainder when solving a contextual problem.	**Bridges in Mathematics** Unit 1: M4–S3 Unit 7: M2–S5, M2–S6	**Number Corner** March: Computational Fluency

Standard	Descriptor	Citations	
5.CE.2	The student will estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition and subtraction of fractions with like and unlike denominators (with and without models), and solve single-step contextual problems involving multiplication of a whole number and a proper fraction, with models. The student will:		
5.CE.2.a	Determine the least common multiple of two numbers to find the least common denominator for two fractions.	**Bridges in Mathematics** Unit 2: M1–S1 (Daily Practice), M1–S2 (Home Connection); M3–S5; M4–S1, M4–S2	**Number Corner** March: Number Strings
5.CE.2.b	Estimate and determine the sum or difference of two fractions (proper or improper) and/or mixed numbers, having like and unlike denominators limited to 2, 3, 4, 5, 6, 8, 10, and 12 (e.g., $\frac{5}{8} + \frac{1}{4}$, $\frac{4}{5} - \frac{2}{3}$, $3\frac{3}{4} - 2\frac{5}{12}$), and simplify the resulting fraction.*	**Bridges in Mathematics** Unit 2: M1–S1, M1–S4; M2–S2, M2–S4; M4–S3 Unit 3: M1–S2	**Number Corner** October: Computational Fluency November: Number Strings
5.CE.2.c	Estimate and solve single-step and multistep contextual problems involving addition and subtraction with fractions (proper or improper) and/or mixed numbers having like and unlike denominators, with and without models. Denominators should be limited to 2, 3, 4, 5, 6, 8, 10, and 12. Answers should be expressed in simplest form.	**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

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Standard	Descriptor	Citations	
5.CE.2	The student will estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition and subtraction of fractions with like and unlike denominators (with and without models), and solve single-step contextual problems involving multiplication of a whole number and a proper fraction, with models. The student will:		
5.CE.2.d	Solve single-step contextual problems involving multiplication of a whole number, limited to 12 or less, and a proper fraction (e.g., $9 \times \frac{2}{3}$, $8 \times \frac{3}{4}$) with models. The denominator will be a factor of the whole number and answers should be expressed in simplest form.*	**Bridges in Mathematics** Unit 5: M1–S2, M1–S3, M1–S4 (Daily Practice); M2–S5 (Home Connections)	**Number Corner** April: Solving Problems

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5.CE.3	The student will estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition, subtraction, multiplication, and division with decimal numbers. The student will:	
5.CE.3.a	Apply estimation strategies (e.g., rounding to the nearest whole number, tenth or hundredth; compatible numbers, place value) to determine a reasonable solution for single-step and multistep contextual problems involving addition, subtraction, and multiplication of decimals, and single-step contextual problems involving division of decimals.	*This standard is beyond the scope of the grade 5 program.*

Standard	Descriptor	Citations	
5.CE.3	The student will estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition, subtraction, multiplication, and division with decimal numbers. The student will:		
	5.CE.3.b Estimate and determine the product of two numbers using strategies and algorithms, including the standard algorithm, when given:		
5.CE.3.b.i	a two-digit factor and a one-digit factor (e.g., 2.3 × 4; 0.08 × 0.9; .16 × 5);*	**Bridges in Mathematics** Unit 3: M2–S5 (Home Connection) Unit 4: M1–S2, M1–S4 (Daily Practice); M3–S7 (Home Connection); M4–S2 (Home Connection) Unit 7: M4–S2 (Daily Practice)	**Number Corner** December: Solving Problems January: Number Strings
5.CE.3.b.ii	a three-digit factor and a one-digit factor (e.g., 0.156 × 4, 3.28 × 7, 8.09 × 0.2);* and	**Bridges in Mathematics** Unit 3: M2–S5 (Home Connection) Unit 4: M1–S3 (Home Connection); M2–S3 (Daily Practice) Unit 8: M2–S3 (Home Connection)	**Number Corner** December: Solving Problems January: Number Strings
5.CE.3.b.iii	a two-digit factor and a two-digit factor (e.g., 0.85 × 3.7, 14 × 1.6, 9.2 × 3.5).*	**Bridges in Mathematics** Unit 4: M1–S2, M1–S3, M1–S4; M2–S1; M3–S7 (Home Connection) Unit 7: M3–S1 (Daily Practice), M3–S2 (Daily Practice); M3–S4 (Daily Practice)	
	5.CE.3.b Estimate and determine the quotient of two numbers using strategies and algorithms, including the standard algorithm, in which:* (Products will not exceed the thousandths place, and leading zeroes will not be considered when counting digits.)		
5.CE.3.c.i	quotients do not exceed four digits with or without a decimal point;	**Bridges in Mathematics** Unit 7: M3–S1, M3–S3; M4–S2, M4–S3	**Number Corner** January: Number Strings February: Computational Fluency
5.CE.3.c.ii	quotients may include whole numbers, tenths, hundredths, or thousandths;	**Bridges in Mathematics** Unit 7: M3–S1, M3–S3; M4–S2, M4–S3	**Number Corner** January: Number Strings February: Computational Fluency
5.CE.3.c.iii	divisors are limited to a single digit whole number or a decimal expressed as tenths; and	**Bridges in Mathematics** Unit 7: M3–S1, M3–S3; M4–S2, M4–S3	
5.CE.3.c.iv	no more than one additional zero will need to be annexed.	**Bridges in Mathematics** Unit 7: M3–S1, M3–S3; M4–S2, M4–S3	**Number Corner** January: Number Strings February: Computational Fluency

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Standard	Descriptor	Citations	
5.CE.3 The student will estimate, represent, solve, and justify solutions to single-step and multistep problems, including those in context, using addition, subtraction, multiplication, and division with decimal numbers. The student will:			
5.CE.3.d	Solve single-step and multistep contextual problems involving addition, subtraction, and multiplication of decimals by applying strategies (e.g., estimation, modeling) and algorithms, including the standard algorithm.	**Bridges in Mathematics** Unit 3: M2–S3 (Home Connections), M2–S4 (Daily Practice)	**Number Corner** December: Solving Problems January: Number Strings
5.CE.3.e	Solve single-step contextual problems involving division with decimals by applying strategies (e.g., estimation, modeling) and algorithms, including the standard algorithm.	**Bridges in Mathematics** Unit 7: M3–S1, M3–S3; M4–S2, M4–S3, M4–S4 (Daily Practice)	**Number Corner** January: Number Strings
5.CE.4 The student will simplify numerical expressions with whole numbers using the order of operations. The student will:			
	5.CE.4.a Use order of operations to simplify numerical expressions with whole numbers, limited to addition, subtraction, multiplication, and division in which:*		
5.CE.4.a.i	expressions may contain no more than one set of parentheses;	**Bridges in Mathematics** Unit 1: M3–S3, M3–S4 Unit 6: M1–S3	**Number Corner** September: Calendar Collector October: Computational Fluency
5.CE.4.a.ii	simplification will be limited to five whole numbers and four operations in any combination of addition, subtraction, multiplication, or division;	**Bridges in Mathematics** Unit 1: M1–S2; M2–S4; M3–S2, M3–S3, M3–S4 Unit 6: M1–S3	**Number Corner** September: Calendar Collector October: Computational Fluency

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Standard	Descriptor	Citations	
5.CE.4 The student will simplify numerical expressions with whole numbers using the order of operations. The student will:			
	5.CE.4.a Use order of operations to simplify numerical expressions with whole numbers, limited to addition, subtraction, multiplication, and division in which:*		
5.CE.4.a.iii	whole numbers will be limited to two digits or less; and	**Bridges in Mathematics** Unit 1: M1–S2; M2–S4; M3–S2, M3–S3, M3–S4 Unit 6: M1–S3	**Number Corner** September: Calendar Collector October: Computational Fluency
5.CE.4.a.iv	expressions should not include braces, brackets, or fraction bars	**Bridges in Mathematics** Unit 1: M1–S2; M2–S4; M3–S2, M3–S3, M3–S4 Unit 6: M1–S3	**Number Corner** September: Calendar Collector October: Computational Fluency
5.CE.4.b	Given a whole number numerical expression involving more than one operation, describe which operation is completed first, which is second, and which is third.*	**Bridges in Mathematics** Unit 1: M1–S2; M2–S4; M3–S2, M3–S3, M3–S4 Unit 6: M1–S3	**Number Corner** September: Calendar Collector October: Computational Fluency

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5 Measurement and Geometry

Standard	Descriptor	Citations	
5.MG.1	The student will reason mathematically to solve problems, including those in context, that involve length, mass, and liquid volume using metric units. The student will:		
	5.MG.1.a Determine the most appropriate unit of measure to use in a contextual problem that involves metric units:		
5.MG.1.a.i	length (millimeters, centimeters, meters, and kilometers);	**Bridges in Mathematics** Unit 3: M3–S1, M3–S2 Unit 6: M3–S5 (Home Connections)	**Number Corner** November: Calendar Collector
5.MG.1.a.ii	mass (grams and kilograms); and	**Bridges in Mathematics** Unit 3: M3–S1	
		The grade 4 curriculum addresses 5.MG.1.a.ii in the following sections:	
		Bridges in Mathematics Unit 1: M4–S1, M4–S2	
5.MG.1.a.iii	liquid volume (milliliters and liters).	**Bridges in Mathematics** Unit 3: M3–S1	**Number Corner** February: Calendar Collector, Solving Problems
		The grade 4 curriculum addresses 5.MG.1.a.iii in the following sections:	
		Bridges in Mathematics Unit 1: M4–S2 Unit 4: M3–S4	
	5.MG.1.b Estimate and measure to solve contextual problems that involve metric units:		
5.MG.1.b.i	length (millimeters, centimeters and meters);	**Bridges in Mathematics** Unit 3: M3–S2, M3–S3	**Number Corner** November: Calendar Collector
5.MG.1.b.ii	mass (grams and kilograms); and	**Bridges in Mathematics** Unit 3: M3–S1	**Number Corner** October: Calendar Collector
		The grade 4 curriculum addresses 5.MG.1.b.ii in the following sections:	
		Bridges in Mathematics Unit 1: M4–S1, M4–S2	
5.MG.1.b.iii	liquid volume (milliliters and liters).	**Bridges in Mathematics** Unit 3: M3–S1	**Number Corner** February: Calendar Collector, Problem Solving
		The grade 4 curriculum addresses 5.MG.1.b.iii in the following sections:	
		Bridges in Mathematics Unit 1: M4–S2 Unit 4: M3–S4	

Standard	Descriptor	Citations	
5.MG.1	The student will reason mathematically to solve problems, including those in context, that involve length, mass, and liquid volume using metric units. The student will:		
	5.MG.1.c Given the equivalent metric measure of one unit, in a contextual problem, determine the equivalent measurement within the metric system:		
5.MG.1.c.i	length (millimeters, centimeters, meters, and kilometers);	**Bridges in Mathematics** Unit 3: M3–S1, M3–S2, M3–S3, M3–S4 (Daily Practice) Unit 5: M1–S1 (Daily Practice)	**Number Corner** November: Calendar Collector February: Calendar Collector
5.MG.1.c.ii	mass (grams and kilograms); and	**Bridges in Mathematics** Unit 3: M4–S3 (Home Connections) Unit 5: M4–S5 (Daily Practice)	
		The grade 4 curriculum addresses 5.MG.1.c.ii in the following sections:	
		Bridges in Mathematics Unit 4: M3–S5	
5.MG.1.c.iii	liquid volume (milliliters and liters).	**Bridges in Mathematics** Unit 3: M3–S1 (Daily Practice)	**Number Corner** February: Calendar Collector, Solving Problems
		The grade 4 curriculum addresses 5.MG.1.c.iii in the following sections:	
		Bridges in Mathematics Unit 1: M4–S2, M4–S4 (Home Connections) Unit 3: M2–S1 (Daily Practice) Unit 4: M3–S4	
5.MG.2	The student will use multiple representations to solve problems, including those in context, involving perimeter, area, and volume. The student will:		
5.MG.2.a	Investigate and develop a formula for determining the area of a right triangle.	*This standard is beyond the scope of the grade 5 program.*	

Standard	Descriptor	Citations	
5.MG.2	The student will use multiple representations to solve problems, including those in context, involving perimeter, area, and volume. The student will:		
5.MG.2.b	Estimate and determine the area of a right triangle, with diagrams, when the base and the height are given in whole number units, in metric or U.S. Customary units, and record the solution with the appropriate unit of measure (e.g., 16 square inches).	*This standard is beyond the scope of the grade 5 program.*	
5.MG.2.c	Describe volume as a measure of capacity and give examples of volume as a measurement in contextual situations.	**Bridges in Mathematics** Unit 1: M1–S4, M1–S5; M2–S1, M2–S2 Unit 6: M3–S1	**Number Corner** October: Calendar Grid January: Solving Problems April: Calendar Grid
5.MG.2.d	Investigate and develop a formula for determining the volume of rectangular prisms using concrete objects.	**Bridges in Mathematics** Unit 1: M1–S5; M2–S1, M2–S2 Unit 6: M3–S1, M3–S2 Unit 8: M1–S5, M1–S6; M2–S2	**Number Corner** October: Calendar Grid January: Solving Problems April: Calendar Grid
5.MG.2.e	Solve problems, including those in context, to estimate and determine the volume of a rectangular prism using concrete objects, diagrams, and formulas when the length, width, and height are given in whole number units. Record the solution with the appropriate unit of measure (e.g., 12 cubic inches).	**Bridges in Mathematics** Unit 1: M1–S5; M2–S1, M2–S2 Unit 6: M3–S1, M3–S2 Unit 8: M1–S5, M1–S6; M2–S2	**Number Corner** October: Calendar Grid January: Solving Problems April: Calendar Grid

Standard	Descriptor	Citations	
5.MG.2	The student will use multiple representations to solve problems, including those in context, involving perimeter, area, and volume. The student will:		
5.MG.2.f	Identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation.	*This standard is beyond the scope of the grade 5 program.*	
5.MG.2.g	Solve contextual problems that involve perimeter, area, and volume in standard units of measure.	**Bridges in Mathematics** Unit 2: M4–S3 (Daily Practice) Unit 8: M2–S5; M3–S1, M3–S2, M3–S5	**Number Corner** November: Calendar Grid December: Calendar Grid January: Solving Problems
5.MG.3	The student will classify and measure angles and triangles, and solve problems, including those in context. The student will:		
5.MG.3.a	Classify angles as right, acute, obtuse, or straight and justify reasoning.	**Bridges in Mathematics** Unit 6: M2–S1, M2–S3, M2–S4	**Number Corner** November: Calendar Grid December: Calendar Grid
5.MG.3.b	Classify triangles as right, acute, or obtuse and equilateral, scalene, or isosceles and justify reasoning.	**Bridges in Mathematics** Unit 6: M1–S1; M2–S1, M2–S3, M2–S4; M3–S1	**Number Corner** November: Calendar Grid
5.MG.3.c	Identify congruent sides and right angles using geometric markings to denote properties of triangles.	*Students do not use geometric markings to denote congruent sides.* **Bridges in Mathematics** Unit 6: M2–S1 (Home Connections)	
5.MG.3.d	Compare and contrast the properties of triangles.	**Bridges in Mathematics** Unit 6: M2–S1, M2–S3, M2–S4	**Number Corner** November: Calendar Grid

Standard	Descriptor	Citations
5.MG.3 The student will classify and measure angles and triangles, and solve problems, including those in context. The student will:		
5.MG.3.e	Identify the appropriate tools (e.g., protractor, straightedge, angle ruler, available technology) to measure and draw angles.	**Bridges in Mathematics** Unit 6: M2–S2, M2–S4 *The grade 4 curriculum addresses 5.MG.3.e in the following sections:* **Bridges in Mathematics** Unit 5: M1–S5, M1–S5, M1–S6; M2–S4; M4–S1
5.MG.3.f	Measure right, acute, obtuse, and straight angles, using appropriate tools, and identify measures in degrees.	**Bridges in Mathematics** Unit 6: M2–S2, M2–S4 *The grade 4 curriculum addresses 5.MG.3.f in the following sections:* **Bridges in Mathematics** Unit 5: M1–S5, M1–S5, M1–S6; M2–S4; M4–S1
5.MG.3.g	Use models to prove that the sum of the interior angles of a triangle is 180 degrees and use the relationship to determine an unknown angle measure in a triangle.	*This standard is beyond the scope of the grade 5 program.*
5.MG.3.h	Solve addition and subtraction contextual problems to determine unknown angle measures on a diagram.	*The grade 4 curriculum addresses 5.MG.3.h in the following sections:* **Bridges in Mathematics** Unit 5: M4–S2, M4–S3 (Daily Practice)

5 Probability and Statistics

Standard	Descriptor	Citations	
5.PS.1	The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on line plots (dot plots) and stem-and-leaf plots. The student will:		
5.PS.1.a	Formulate questions that require the collection or acquisition of data.	**Bridges in Mathematics** Unit 8: M1–S2, M1–S3, M1–S4, M1–S5; M2–S1, M2–S4, M2–S6	**Number Corner** December: Calendar Collector
5.PS.1.b	Determine the data needed to answer a formulated question and collect or acquire existing data (limited to 30 or fewer data points) using various methods (e.g., polls, observations, measurements, experiments).	**Bridges in Mathematics** Unit 8: M1–S2, M1–S3, M1–S4, M1–S5; M2–S1, M2–S4, M2–S6	**Number Corner** December: Calendar Collector
5.PS.1.c	Organize and represent a data set using a line plot (dot plot) with a title, labeled axes, and a key, with and without the use of technology tools. Lines plots (dot plots) may contain whole numbers, fractions, or decimals.	**Bridges in Mathematics** Unit 8: M1–S2, M1–S3, M1–S4, M1–S5; M2–S1, M2–S4, M2–S6	**Number Corner** December: Calendar Collector
5.PS.1.d	Organize and represent numerical data using a stem-and-leaf plot with a title and key, where the stems are listed in ascending order and the leaves are in ascending order, with or without commas between the leaves.	*This standard is beyond the scope of the grade 5 program.*	

Standard	Descriptor	Citations	
5.PS.1	The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on line plots (dot plots) and stem-and-leaf plots. The student will:		
	5.PS.1.e Analyze data represented in line plots (dot plots) and stem-and-leaf plots and communicate results orally and in writing:		
5.PS.1.e.i	describe the characteristics of the data represented in a line plot (dot plot) and stem-and-leaf plot as a whole (e.g., the shape and spread of the data);	*Students do not work with stem-and-leaf plots.*	
		Bridges in Mathematics Unit 8: M1–S2, M1–S3, M1–S4, M1–S5; M2–S1, M2–S4, M2–S6	**Number Corner** December: Calendar Collector
5.PS.1.e.ii	make inferences about data represented in line plots (dot plots) and stem-and-leaf plots (e.g., based on a line plot (dot plot) of the number of books students in a bus line have in their backpack, every student will have from two to four books in their backpack);	*Students do not work with stem-and-leaf plots.*	
		Bridges in Mathematics Unit 8: M1–S2, M1–S3, M1–S4, M1–S5; M2–S1, M2–S4, M2–S6	**Number Corner** December: Calendar Collector
5.PS.1.e.iii	identify parts of the data that have special characteristics and explain the meaning of the greatest, the least, or the same (e.g., the stem-and-leaf plot shows that the same number of students scored in the 90s as scored in the 70s);	*Students do not work with stem-and-leaf plots.*	
		Bridges in Mathematics Unit 8: M1–S2, M1–S3, M1–S4, M1–S5; M2–S1, M2–S4, M2–S6	**Number Corner** December: Calendar Collector

Standard	Descriptor	Citations	
5.PS.1 The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on line plots (dot plots) and stem-and-leaf plots. The student will:			
	5.PS.1.e Analyze data represented in line plots (dot plots) and stem-and-leaf plots and communicate results orally and in writing:		
5.PS.1.e.iv	draw conclusions about the data and make predictions based on the data to answer questions; and	*Students do not work with stem-and-leaf plots.*	
		Bridges in Mathematics Unit 8: M1–S2, M1–S3, M1–S4, M1–S5; M2–S1, M2–S4, M2–S6; M3–S1	**Number Corner** December: Calendar Collector
5.PS.1.e.v	solve single-step and multistep addition and subtraction problems using data from line plots (dot plots) and stem-and-leaf plots.	*Students do not solve problems using data from stem-and-leaf plots.*	
		Bridges in Mathematics Unit 8: M3–S1; M4–S1	**Number Corner** December: Calendar Collector
5.PS.2 The student will solve contextual problems using measures of center and the range. The student will:			
5.PS.2.a	Describe mean as fair share.	**Bridges in Mathematics** Unit 8: M1–S5	
		The grade 4 curriculum addresses 5.PS.2.a in the following sections:	
		Bridges in Mathematics Unit 8: M2–S4	
5.PS.2.b	Describe and determine the mean of a set of data values representing data from a given context as a measure of center.	**Bridges in Mathematics** Unit 8: M1–S5; M2–S4	
		The grade 4 curriculum addresses 5.PS.2.b in the following sections:	
		Bridges in Mathematics Unit 8: M1–S5; M2–S4	
5.PS.2.c	Describe and determine the median of a set of data values representing data from a given context as a measure of center.	**Number Corner** December: Calendar Collector	

Standard	Descriptor	Citations	
5.PS.2 The student will solve contextual problems using measures of center and the range. The student will:			
5.PS.2.d	Describe and determine the mode of a set of data values representing data from a given context as a measure of center.	**Number Corner** December: Calendar Collector	
		The grade 4 curriculum addresses 5.PS.2.d in the following sections:	
		Bridges in Mathematics Unit 8: M1–S1; M2–S2, M2–S3, M2–S5	
5.PS.2.e	Describe and determine the range of a set of data values representing data from a given context as a measure of spread.	**Bridges in Mathematics** Unit 8: M1–S4; M2–S1, M2–S6; M4–S1	**Number Corner** December: Calendar Collector
5.PS.3 The student will determine the probability of an outcome by constructing a model of a sample space and using the Fundamental (Basic) Counting Principle. The student will:			
5.PS.3.a	Determine the probability of an outcome by constructing a sample space (with a total of 24 or fewer equally likely possible outcomes), using a tree diagram, list, or chart to represent and determine all possible outcomes.	*This standard is beyond the scope of the grade 5 program.*	
5.PS.3.b	Determine the number of possible outcomes by using the Fundamental (Basic) Counting Principle.	*This standard is beyond the scope of the grade 5 program.*	

5 Patterns, Functions, and Algebra

Standard	Descriptor	Citations	
5.PFA.1	The student will identify, describe, extend, and create increasing and decreasing patterns with whole numbers, fractions, and decimals, including those in context, using various representations. The student will:		
5.PFA.1.a	Identify, describe, extend, and create increasing and decreasing patterns using various representations (e.g., objects, pictures, numbers, number lines, input/output tables, function machines).	**Bridges in Mathematics** Unit 6: M1–S3, M1–S4, M1–S5, M1–S6; M4–S1 (Home Connections), M4–S4 (Assessment)	**Number Corner** January: Calendar Grid, Solving Problems
5.PFA.1.b	Analyze an increasing or decreasing single-operation numerical pattern found in lists, input/output tables, and function machines, and generalize the change to identify the rule, extend the pattern, or identify missing terms. (Patterns will be limited to addition, subtraction, multiplication, and division of whole numbers; addition and subtraction of fractions with like denominators of 12 or less; and addition and subtraction of decimals expressed in tenths or hundredths).	**Bridges in Mathematics** Unit 6: M1–S3, M1–S4, M1–S5, M1–S6; M4–S1 (Home Connections), M4–S4 (Assessment)	**Number Corner** January: Calendar Grid, Solving Problems

Standard	Descriptor	Citations	
5.PFA.1 The student will identify, describe, extend, and create increasing and decreasing patterns with whole numbers, fractions, and decimals, including those in context, using various representations. The student will:			
5.PFA.1.c	Solve contextual problems that involve identifying, describing, and extending increasing and decreasing patterns using single-operation input and output rules (limited to addition, subtraction, multiplication, and division of whole numbers; addition and subtraction of fractions with like denominators of 12 or less; and addition and subtraction of decimals expressed in tenths or hundredths).	**Bridges in Mathematics** Unit 6: M1–S5, M1–S6, M1–S7; M4–S1 (Home Connections)	**Number Corner** January: Calendar Grid, Solving Problems
5.PFA.2 The student will investigate and use variables in contextual problems. The student will:			
5.PFA.2.a	Describe the concept of a variable (presented as a box, letter, or other symbol) as a representation of an unknown quantity.	*This standard is beyond the scope of the grade 5 program.*	
5.PFA.2.b	Write an equation (with a single variable that represents an unknown quantity and one operation) from a contextual situation, using addition, subtraction, multiplication, or division.	**Bridges in Mathematics** Unit 7: M2–S1, M2–S2, M2–S4, M2–M6; M3–S3 (Daily Practice)	

Standard	Descriptor	Citations	
5.PFA.2 The student will investigate and use variables in contextual problems. The student will:			
5.PFA.2.c	Use an expression with a variable to represent a given verbal expression involving one operation (e.g., "5 more than a number" can be represented by $y + 5$).	*This standard is beyond the scope of the grade 5 program.*	
5.PFA.2.d	Create and write a word problem to match a given equation with a single variable and one operation.	**Bridges in Mathematics** Unit 3: M4–S1, M4–S2 (Daily Practice) Unit 7: M2–S2 (Home Connections), M2–S4	**Number Corner** September: Solving Problems October: Solving Problems November: Solving Problems March: Solving Problems