

SIDE BY SIDE OF OKLAHOMA PASS STRANDS AND COMMON CORE STATE STANDARDS

PASS			Strand and Standard		
Strand	Standard #	PASS		Grade	Common Core State Standard
FIFTH GRADE					
* Legends/Abbreviations can be found in a separate table.					
A	1	Standard 1: Algebraic Reasoning: Patterns and Relationships - The student will use algebraic methods to describe patterns and solve problems in a variety of contexts.			
A	1.1	Describe rules that produce patterns found in tables, graphs, and models, and use variables (e.g., boxes, letters, pawns, number cubes, or other symbols) to solve problems or to describe general rules in algebraic expression or equation form.	OA.5	4	Generate and analyze patterns. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule “Add 3” and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.
A	1.1	Describe rules that produce patterns found in tables, graphs, and models, and use variables (e.g., boxes, letters, pawns, number cubes, or other symbols) to solve problems or to describe general rules in algebraic expression or equation form.	OA.3	5	Analyze patterns and relationships. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

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A	1.1	Describe rules that produce patterns found in tables, graphs, and models, and use variables (e.g., boxes, letters, pawns, number cubes, or other symbols) to solve problems or to describe general rules in algebraic expression or equation form.	OA.9	3	Solve problems involving the four operations, and identify and explain patterns in arithmetic. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.
A	1.2	Use algebraic problem-solving techniques (e.g., use a balance to model an equation and show how subtracting a number from one side requires subtracting the same amount from the other side) to solve problems.	OA.2	4	Use the four operations with whole numbers to solve problems. Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	NF.4b	4	Understand a multiple of a/b as a multiple of $1/b$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$, recognizing this product as $6/5$. (In general, $n \times (a/b) = (n \times a)/b$.)
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	OA.1	5	Write and interpret numerical expressions. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	OA.2	5	Write and interpret numerical expressions. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.

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A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	OA.5	3	Understand properties of multiplication and the relationship between multiplication and division. Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$ then $15 \times 2 = 30$, or by $5 \times 2 = 10$ then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.) (Students need not use formal terms for these properties.)
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	OA.9	3	Solve problems involving the four operations, and identify and explain patterns in arithmetic. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	MD.7c	3	Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	NS.4	6	Compute fluently with multi-digit numbers and find common factors and multiples. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express $36 + 8$ as $4(9 + 2)$.
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	NS.1d	7	Apply properties of operations as strategies to add and subtract rational numbers.

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A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	NS.2c	7	Apply properties of operations as strategies to multiply and divide rational numbers.
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	EE.1	7	Use properties of operations to generate equivalent expressions. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
A	1.3	Recognize and apply the commutative, associative, and distributive properties to solve problems (e.g., $3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$).	EE.2	7	Use properties of operations to generate equivalent expressions. Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.”
N	2	Standard 2: Number Sense and Operation - The student will use numbers and number relationships to acquire basic facts. The student will estimate and compute with whole numbers, fractions, and decimals.			
N	2.1a	Number Sense: Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through the thousandths.	NBT.1	4	Generalize place value understanding for multi-digit whole numbers. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division. (Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.)
N	2.1a	Number Sense: Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through the thousandths.	NBT.1	5	Understand the place value system. 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 1/10 of what it represents in the place to its left.

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N	2.1a	Number Sense: Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through the thousandths.	NBT.2	5	Understand the place value system. 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. Use whole number exponents to denote powers of 10.
N	2.1a	Number Sense: Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through the thousandths.	NBT.3a	5	Understand the place value system. Read, write, and compare decimals to thousandths.
N	2.1a	Number Sense: Apply the concept of place value of whole numbers through hundred millions (9 digits) and model, read, and write decimal numbers through the thousandths.	NBT.3a	5	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
N	2.1b	Number Sense: Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).	NF.7	4	Understand decimal notation for fractions, and compare decimal fractions. 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, e.g., by using a visual model. (Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)
N	2.1b	Number Sense: Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).	NBT.3	5	Understand the place value system. Read, write, and compare decimals to thousandths.
N	2.1b	Number Sense: Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).	NBT.3b	5	Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.

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N	2.1b	Number Sense: Represent with models the connection between fractions and decimals, compare and order fractions and decimals, and be able to convert from one representation to the other to solve problems. (e.g., use 10x10 grids, base 10 blocks).	NS.1	8	Know that there are numbers that are not rational, and approximate them by rational numbers. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.
N	2.1c	Number Sense: Identify and compare integers using real world situations. (e.g., owing money, temperature, or measuring elevations above and below sea level).	NS.5	6	Apply and extend previous understandings of numbers to the system of rational numbers. Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, debits/credits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
N	2.1c	Number Sense: Identify and compare integers using real world situations. (e.g., owing money, temperature, or measuring elevations above and below sea level).	NS.7b	6	Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write $-3^{\circ}\text{C} > -7^{\circ}\text{C}$ to express the fact that -3°C is warmer than -7°C .
N	2.1c	Number Sense: Identify and compare integers using real world situations. (e.g., owing money, temperature, or measuring elevations above and below sea level).	NS.7d	6	Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.
N	2.1d	*Number Sense: Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).	OA.4	4	Gain familiarity with factors and multiples. 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.

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N	2.1d	*Number Sense: Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).	NBT.5	4	Use place value understanding and properties of operations to perform multi-digit arithmetic. 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. (Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000. A range of algorithms may be used.)
N	2.1d	*Number Sense: Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).	NF.1	4	Extend understanding of fraction equivalence and ordering. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. 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, e.g., by using a visual fraction model. (Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)
N	2.1d	*Number Sense: Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).	NS.2	6	Compute fluently with multi-digit numbers and find common factors and multiples. Fluently divide multi-digit numbers using the standard algorithm.
N	2.1d	*Number Sense: Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).	NS.3	6	Compute fluently with multi-digit numbers and find common factors and multiples. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

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N	2.1d	*Number Sense: Identify and apply factors, multiples, prime, and composite numbers in a variety of problem-solving situations (e.g., build rectangular arrays for numbers 1-100 and classify as prime or composite, use common factors to add fractions).	NS.4	6	Compute fluently with multi-digit numbers and find common factors and multiples. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express $36 + 8$ as $4(9 + 2)$.
N	2.2a	Number Operations: Estimate, add, or subtract decimal numbers with same and different place values to solve problems (e.g., $3.72 + 1.4$, $\$4.56 - \2.12).	NBT.7	5	Perform operations with multi-digit whole numbers and with decimals to hundredths. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
N	2.2a	Number Operations: Estimate, add, or subtract decimal numbers with same and different place values to solve problems (e.g., $3.72 + 1.4$, $\$4.56 - \2.12).	NS.3	6	Compute fluently with multi-digit numbers and find common factors and multiples. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.
N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.2	4	Extend understanding of fraction equivalence and ordering. Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $\frac{1}{2}$. 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, e.g., by using a visual fraction model. (Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)

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N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.3a	4	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.3c	4	Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.3d	4	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.4	4	Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. (Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)
N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.4a	4	Understand a fraction a/b as a multiple of $1/b$. For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$, recording the conclusion by the equation $5/4 = 5 \times (1/4)$.

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N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.5	4	Understand decimal notation for fractions, and compare decimal fractions. 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. For example, express $\frac{3}{10}$ as $\frac{30}{100}$ and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$. (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.) (Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)
N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.6	4	Understand decimal notation for fractions, and compare decimal fractions. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram. (Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)
N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.1	5	Use equivalent fractions as a strategy to add and subtract fractions. 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. For example, $\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}$. (In general, $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$.)

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N	2.2b	Number Operations: Estimate add, or subtract fractions (including mixed numbers) to solve problems using a variety of methods (e.g., use fraction strips, use area models, find a common denominator).	NF.2	5	Use equivalent fractions as a strategy to add and subtract fractions. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $2/5 + 1/2 = 3/7$ by observing that $3/7 < 1/2$.
N	2.2c	Number Operations: Estimate and find the quotient (with and without remainders) with two-digit divisors and a two- or three-digit dividend to solve application problems.	OA.3	4	Use the four operations with whole numbers to solve problems. 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. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
N	2.2c	Number Operations: Estimate and find the quotient (with and without remainders) with two-digit divisors and a two- or three-digit dividend to solve application problems.	NBT.6	4	Use place value understanding and properties of operations to perform multi-digit arithmetic. 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. (Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000. A range of algorithms may be used.)

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N	2.2c	Number Operations: Estimate and find the quotient (with and without remainders) with two-digit divisors and a two- or three-digit dividend to solve application problems.	NBT.6	5	Perform operations with multi-digit whole numbers and with decimals to hundredths. 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.
N	2.2c	Number Operations: Estimate and find the quotient (with and without remainders) with two-digit divisors and a two- or three-digit dividend to solve application problems.	OA.2	3	Represent and solve problems involving multiplication and division. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.
N	2.2c	Number Operations: Estimate and find the quotient (with and without remainders) with two-digit divisors and a two- or three-digit dividend to solve application problems.	NS.2	6	Compute fluently with multi-digit numbers and find common factors and multiples. Fluently divide multi-digit numbers using the standard algorithm.
G	3	Standard 3: Geometry - The student will apply geometric properties and relationships.			
G	3.1	Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).	G.1	4	Draw and identify lines and angles, and classify shapes by properties of their lines and angles. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
G	3.1	Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).	G.2	4	Draw and identify lines and angles, and classify shapes by properties of their lines and angles. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

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G	3.1	Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).	G.3	5	Classify two-dimensional figures into categories based on their properties. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.
G	3.1	Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).	G.4	5	Classify two-dimensional figures into categories based on their properties. Classify two-dimensional figures in a hierarchy based on properties.
G	3.1	Compare and contrast the basic characteristics of circle and polygons (triangles, quadrilaterals, pentagons, hexagons, heptagons, octagons).	G.1	3	Reason with shapes and their attributes. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
G	3.2	Classify angles (e.g., acute, right, obtuse, straight).			
M	4	Standard 4: Measurement - The student use appropriate units of measure to solve problems in a variety of contexts.			
M	4.1a	Measurement: Compare, estimate, and determine the measurement of angles.	MD.5	4	Geometric measurement: understand concepts of angle and measure angles. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: -- a. 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 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles. -- b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

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M	4.1a	Measurement: Compare, estimate, and determine the measurement of angles.	MD.6	4	Geometric measurement: understand concepts of angle and measure angles. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
M	4.1b	Measurement: Develop and use the formula for perimeter and area of a square and rectangle to solve application problems.	MD.3	4	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.
M	4.1b	Measurement: Develop and use the formula for perimeter and area of a square and rectangle to solve application problems.	NF.4b	5	Find the area of a rectangle with fractional side lengths by tiling it with unit squares 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.
M	4.1b	Measurement: Develop and use the formula for perimeter and area of a square and rectangle to solve application problems.	MD.7b	3	Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.
M	4.1b	Measurement: Develop and use the formula for perimeter and area of a square and rectangle to solve application problems.	MD.8	3	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different area or with the same area and different perimeter.

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M	4.1c	Measurement: Convert basic measurements of volume, mass and distance within the same system for metric and customary units (e.g., inches to feet, hours to minutes, centimeters to meters).	MD.1	4	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example: Know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),
M	4.1c	Measurement: Convert basic measurements of volume, mass and distance within the same system for metric and customary units (e.g., inches to feet, hours to minutes, centimeters to meters).	MD.1	5	Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step real world problems.
M	4.1c	Measurement: Convert basic measurements of volume, mass and distance within the same system for metric and customary units (e.g., inches to feet, hours to minutes, centimeters to meters).	MD.3	5	Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition. Recognize volume as an attribute of solid figures and understand concepts of volume measurement. -- a. 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. -- b. 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.
M	4.1c	Measurement: Convert basic measurements of volume, mass and distance within the same system for metric and customary units (e.g., inches to feet, hours to minutes, centimeters to meters).	RP.3d	6	Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

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M	4.2	Money: Solve a variety of problems involving money.	MD.2	4	Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
M	4.2	Money: Solve a variety of problems involving money.	MD.8	2	Work with time and money. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ (dollars) and ¢ (cents) symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?
D	5	Standard 5: Data Analysis - The student will use data analysis, statistics and probability to interpret data in a variety of contexts.			
D	5.1a	Data Analysis: Compare and translate displays of data and justify the selection of the type of table or graph (e.g., charts, tables, bar graphs, pictographs, line graphs, circle graphs, Venn diagrams).	MD.2	5	Represent and interpret data. 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. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.
D	5.1b	*Data Analysis: Formulate questions, design investigations, consider samples, and collect, organize, and analyze data using observation, measurement, surveys, or experiments (e.g., how far can 5th graders throw a softball based on where it first hits the ground?).	SP.1	6	Develop understanding of statistical variability. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.

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D	5.1b	*Data Analysis: Formulate questions, design investigations, consider samples, and collect, organize, and analyze data using observation, measurement, surveys, or experiments (e.g., how far can 5th graders throw a softball based on where it first hits the ground?).	SP.2	6	Develop understanding of statistical variability. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.
D	5.1b	*Data Analysis: Formulate questions, design investigations, consider samples, and collect, organize, and analyze data using observation, measurement, surveys, or experiments (e.g., how far can 5th graders throw a softball based on where it first hits the ground?).	SP.5	6	Summarize and describe distributions. Summarize numerical data sets in relation to their context, such as by: <ul style="list-style-type: none"> -- a. Reporting the number of observations. -- b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. -- c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was gathered. -- d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data was gathered.
D	5.2a	Probability: Determine the probability of events occurring in familiar contexts or experiments and express probabilities as fractions from zero to one (e.g., find the fractional probability of an event given a biased spinner).			
D	5.2b	Probability: Use the fundamental counting principle on sets with up to four items to determine the number of possible combinations (e.g. create a tree diagrams to see possible combinations).			
D	5.3	Central Tendency: Determine the range (spread), mode (most often), and median (middle) of a set of data.	SP.2	6	Develop understanding of statistical variability. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.

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D	5.3	Central Tendency: Determine the range (spread), mode (most often), and median (middle) of a set of data.	SP.5	6	<p>Summarize and describe distributions. Summarize numerical data sets in relation to their context, such as by:</p> <ul style="list-style-type: none"> -- a. Reporting the number of observations. -- b. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. -- c. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data was gathered. -- d. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data was gathered.
			NBT.4		Understand the place value system. Use place value understanding to round decimals to any place.