

	3rd grade students:		4th grade students:		5th grade students:
3.A	Represent and solve problems involving multiplication and division.	4.A	Use the four operations with whole numbers to solve problems.	5.A	Write and interpret numerical expressions.
	<p>A.1 Interpret the factors and products in whole number multiplication equations. (ex. 4×7 is 4 groups of 7 objects with a total of 28 objects or 4 strings measuring 7 inches each with a total of 28 inches.)</p> <p>A.2 Interpret the dividend, divisor, and quotient in whole number division equations (ex. $28 \div 7$ can be interpreted as 28 objects divided into 7 equal groups with 4 objects in each group or 28 objects divided so there are 7 objects in each of the 4 equal groups.)</p> <p>A.3 Multiply and divide within 100 to solve contextual problems, with unknowns in all positions, in situations involving equal groups, arrays, and measurement quantities using strategies based on place value, the properties of operations, and the relationship between multiplication and division (e.g.,</p>		<p>A.1 interpret a multiplication equation as a comparison (e.g. interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5). Represent verbal statement of multiplicative comparisons as multiplication equations.</p> <p>A.2 Multiply or divide to solve contextual problems involving multiplicative comparison, and distinguish multiplicative comparison from additive comparison. For example, school A has 300 students and school B has 600 students: to say that school B has two times as many students is an example of multiplicative comparison; to say that school B has 300 more students is an example of additive comparison.</p> <p>A.3 Solve multi-step contextual problems posed with whole numbers</p>		<p>A.1 Use parentheses and/or brackets in numerical expressions and evaluate expressions having these symbols using the conventional order (Order of Operations).</p> <p>A.2 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 $3 \times (18,932 + 921)$ is three times as large as $18,932 + 921$, without having to calculate the indicated sum or product.</p>

	<p>contexts including computations such as $3 \times ? = 24$, $6 \times 16 = ?$, $? \div 8 = 3$, or $96 \div 6 = ?$).</p> <p>A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers within 100. For example, determine the unknown number that makes the equation true in each of the equations: $8 \times ? = 48$</p>		<p>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.</p>		
3.B	Understand properties of multiplication and the relationship between multiplication and division.	4.B	Gain familiarity with factors and multiples.	5.B	Analyze patterns and relationships.
	<p>B.5 Apply properties of operations as strategies to multiply and divide. (Students need not use formal terms for these properties.) 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 solved by $(3 \times 5) \times 2$ or $3 \times (5 \times 2)$ (Associative property of multiplication). One way to find 8×7 is by using $8 \times (5 + 2) = (8 \times 5) + (8 \times 2)$. By knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, then $8 \times 7 = 40 + 16 = 56$</p> <p>B.6 Understand division as an unknown-factor problem. For</p>		<p>B.4 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.</p>		<p>B.3 Generate two numerical patterns using two given rules. 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." and the</p>

	example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.				starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences. a. Identify relationships between corresponding terms in two numerical patterns. For example, observe that the terms in one sequence are twice the corresponding terms in the other sequence. b. Form ordered pairs consisting of corresponding terms from two numerical patterns and graph the ordered pairs on a coordinate plane.
3.C	Multiply and divide within 100.		C. Generate and analyze patterns.		
	C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of 3 rd grade, know from memory all products of two one-digit numbers and related division facts.		C.5 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.		
3.D	Solve problems involving the four				

	operations and identify and explain patterns in arithmetic.				
	<p>D.8 Solve two-step contextual problems using the four operations. 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.</p> <p>D.9 Identify arithmetic patterns (including patterns in the addition and multiplication tables) and explain them using properties of operations. For example, analyze patterns in the multiplication table and observe that 4 times a number is always even (because $4 \times 6 = (2 \times 2) \times 6 = 2 \times (2 \times 6)$, which uses the associative property of multiplication).</p>				

	3rd grade students:		4th grade students:		5th grade student:
3.A	Use place value understanding and properties of operations to perform multi-digit arithmetic.		A. Generalize place value understanding for multi-digit whole numbers.		A. Understand the place value system.
	<p>A.1 Round whole numbers to the nearest 10 or 100 using understanding of place value.</p> <p>A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p>A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations.</p>		<p>A.1 Recognize that in a multi-digit whole number (less than or equal to 1,000,000), a digit in one place represents 10 times as much as it represents in the place to its right. For example, recognize that 7 in 700 is 10 times bigger than the 7 in 70 because $700 \div 70 = 10$ and $70 \times 10 = 700$.</p> <p>A.2 Read and write multi-digit whole numbers (less than or equal to 1,000,000) using standard form, word form, and expanded form (e.g. the expanded form of 4256 is written as $4 \times 1000 + 2 \times 100 + 5 \times 10 + 6 \times 1$). Compare two multi-digit numbers based on meanings of the digits in each place and use the symbols $>$, $=$, and $<$ to show the relationship.</p> <p>A.3 Round multi-digit whole numbers</p>		<p>.A.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left. 5.NBT.A.2 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. 5.NBT.A.3 Read and write decimals to thousandths using standard form, word form, and expanded form (e.g., the expanded form of 347.392 is written as $3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$). Compare two decimals to thousandths based on meanings of the digits in each place and use the symbols $>$, $=$, and $<$ to show the relationship. 5.NBT.A.4</p>

			to any place (up to and including the hundred-thousand place) using understanding of place value.		Round decimals to the nearest hundredth, tenth, or whole number using understanding of place value.
			B. Use place value understanding and properties of operations to perform multi-digit arithmetic. (See Table 3 - Properties of Operations)		B. Perform operations with multi-digit whole numbers and with decimals to hundredths. (See Table 3 - Properties of Operations)
			.B.4 Fluently add and subtract within 1,000,000 using appropriate strategies and algorithms. .B.5 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 B.6 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		B.5 Fluently multiply multi-digit whole numbers (up to three-digit by four-digit factors) using appropriate strategies and algorithms. 5.NBT.B.6 Find whole-number quotients and remainders 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. B.7 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 operations; assess the reasonableness of answers using estimation strategies. (Limit division problems so that either the dividend or the divisor is a whole number.)

	3rd grade students:		4th grade students:		5th grade student:
3A	Develop understanding of fractions as numbers.		4A. Extend understanding of fraction equivalence and comparison.		A. Use equivalent fractions as a strategy to add and subtract fractions. (See Table 1 - Addition and Subtraction Situations for whole number situations that can be applied to fractions)
	<p>A.1 Understand a fraction, $1/b$, as the quantity formed by 1 part when a whole is partitioned into b equal parts (unit fraction); understand a fraction a/b as the quantity formed by a parts of size $1/b$. For example, $3/4$ represents a quantity formed by 3 parts of size $1/4$.</p> <p>A.2 Understand a fraction as a number on the number line. a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint locates the number $1/b$ on the number line. For example, on a number line from 0 to 1, students</p>		<p>A.1 Explain why a fraction a/b is equivalent to a fraction $a \times n / b \times n$ or $a \div n / b \div n$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions. For example, $3/4 = 3 \times 2 / 4 \times 2 = 6/8$.</p> <p>A.2 Compare two fractions with different numerators and different denominators by creating common denominators or common numerators or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Use the symbols $>$, $=$, or $<$ to show the relationship and justify the</p>		<p>A.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example,</p> <p>A.2 Solve contextual problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result</p>

<p>can partition it into 4 equal parts and recognize that each part represents a length of $\frac{1}{4}$ and the first part has an endpoint at $\frac{1}{4}$ on the number line.</p> <p>b. Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line. For example, $\frac{5}{3}$ is the distance from 0 when there are 5 iterations of $\frac{1}{3}$.</p> <p>A.3 Explain equivalence of fractions and compare fractions by reasoning about their size.</p> <p>a. Understand two fractions as equivalent (equal) if they are the same size or the same point on a number line.</p> <p>b. Recognize and generate simple equivalent fractions (e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$) and explain why the fractions are equivalent using a visual fraction model.</p> <p>c. Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. For example, express 3 in the form $3 = \frac{3}{1}$; recognize that $\frac{6}{1} = 6$; locate $\frac{4}{4}$ and 1 at the same point on a number line diagram.</p> <p>d. Compare two fractions with the</p>	conclusions		
---	-------------	--	--

	<p>same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Use the symbols $>$, $=$, or $<$ to show the relationship and justify the conclusions.</p>				
			<p>B. Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</p>		<p>B. Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (See Table 2 - Multiplication and Division Situations for whole number situations that can be applied to fractions)</p>
			<p>B.3 Understand a fraction $\frac{a}{b}$ with $a > b$ as a sum of fractions $\frac{1}{b}$. For example, $\frac{4}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way (e.g., $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$), recording each decomposition by an equation. Justify decompositions by using a visual fraction model. c. Add and subtract 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. d.</p>		<p>5.NF.B.3 Interpret a fraction as division of the numerator by the denominator</p> <p>Solve contextual problems involving division of 4 whole numbers leading to answers in the form of fractions or mixed numbers by using visual fraction models or equations to represent the problem. For example, if 8 people want to share 49 sheets of construction paper equally, how many sheets will each person receive? Between what two whole numbers does your answer lie?</p>

			Solve contextual problems involving addition and subtraction of fractions referring to the same whole and having like denominators	
			<p>4.NF.B.4 Apply and extend previous understandings of multiplication as repeated addition to multiply a whole number by a fraction. a. 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 $5/4 = 5 \times 1/4$. b. Understand a multiple of a/b as a multiple of $1/b$ and use this understanding to multiply a whole number by a fraction. 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, $n \times a/b = (n \times a)/b = (n \times a) \times 1/b$.) c. Solve contextual problems involving multiplication of a whole number by a fraction (e.g., by using visual fraction models and equations to represent the problem). For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 4 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</p>	<p>5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number or a fraction by a fraction. a. Interpret the product</p> <p>b. 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</p>
				<p>5.NF.B.5 Interpret multiplication as scaling (resizing). a. Compare the size of a product to the size of one factor on the basis of the size of the</p>

				<p>other factor, without performing the indicated multiplication. For example, know if the product will be greater than, less than, or equal to the factors. b. Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explain why multiplying a given number by a fraction less than 1 results in a product less than the given number; and relate the principle of fraction equivalence</p>
				<p>5.NF.B.6 Solve real-world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem.</p>
				<p>5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. a. Interpret division of a unit fraction by a non-zero whole number and compute such quotients. For example, use visual models and the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$. b. Interpret division of a whole number by a unit fraction and compute such quotients. For example, use visual models and the relationship between</p>

				<p>multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$. c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ cup servings are in 2 cups of raisins?</p>
		C. Understand decimal notation for fractions and compare decimal fractions.		
		<p>4.NF.C.5 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, $3/10$ as $30/100$ and add $3/10+4/100=34/100$.</p> <p>4.NF.C.6 Read and write decimal notation for fractions with denominators 10 or 100. Locate these decimals on a number line.</p> <p>4.NF.C.7 Compare two decimals to hundredths by reasoning about their size.</p>		

			Recognize that comparisons are valid only when the two decimals refer to the same whole. Use the symbols $>$, $=$, or $<$ to show the relationship and justify the conclusions.		
--	--	--	---	--	--

	3rd grade students:		4th grade students:		5th grade students:
3.A	Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	4.A	Estimate and solve problems involving measurement.		A. Convert like measurement units within a given measurement system from a larger unit to a smaller unit.
	<p>A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve contextual problems involving addition and subtraction of time intervals in minutes. For example, students may use a number line to determine the difference between the start time and the end time of lunch.</p> <p>A.2 Measure the mass of objects and liquid volume using standard units of grams (g), kilograms (kg), milliliters (ml), and liters (l).</p>		<p>A.1) Measure and estimate to determine relative sizes of measurement units within a single system of measurement involving length, liquid volume, and mass/weight of objects using customary and metric units</p> <p>A.2) Solve one- or two-step real-world problems involving whole number measurements with all four operations within a single system of measurement including problems involving simple fractions.</p>		5.MD.A.1 Convert customary and metric measurement units within a single system by expressing measurements of a larger unit in terms of a smaller unit. Use these conversions to solve multi-step real-world problems involving distances, intervals of time, liquid volumes, masses of objects, and money (including problems involving simple fractions or decimals). For example, 3.6 liters and 4.1 liters can be combined as 7.7 liters or 7700 milliliters

	Estimate the mass of objects and liquid volume using benchmarks. For example, a large paper clip is about one gram, so a box of about 100 large clips is about 100 grams. Therefore, ten boxes would be about 1 kilogram.		A.3) Know and apply the area and perimeter formulas for rectangles in real-world and mathematical problems. <i>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.</i>		
3.B	Represent and interpret data.	3.B	Represent and interpret data.		B. Represent and interpret data.
	<p>B.3 Draw a scaled pictograph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled graphs.</p> <p>B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units: whole numbers, halves, or quarters.</p>		B.4 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. <i>For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.</i>		5.MD.B.2 Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. 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.
3.C	Geometric measurement: understand and apply concepts of area and relate area to multiplication and to addition.	4.C	Geometric measurement: understand concepts of angle and measure angles.		C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

<p>C.5 Recognize that plane figures have an area and understand concepts of area measurement.</p> <p>a. Understand that a square with side length 1 unit, called "a unit square," is said to have "one square unit" of area and can be used to measure area.</p> <p>b. Understand that a plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.</p> <p>C.6 Measure areas by counting unit squares (square centimeters, square meters, square inches, square feet, and improvised units).</p> <p>C.7 Relate area of rectangles to the operations of multiplication and addition.</p> <p>a. Find the area of a rectangle with whole-number side lengths by tiling it and show that the area is the same as would be found by multiplying the side lengths.</p> <p>b. 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.</p> <p>c. Use tiling to show in a concrete case that the area of a</p>	<p>C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.</p> <p>a. Understand that 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.</p> <p>b. Understand that an angle that turns through $1/360$ of a circle is called a "one-degree angle," and can be used to measure angles. An angle that turns through n one-degree angles is said to have an angle measure of n degrees and represents a fractional portion of the circle.</p> <p>C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.</p> <p>C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of parts. Solve addition and subtraction problems to find unknown angles on a diagram in real-world and mathematical problems (e.g., by using an equation with a symbol for the unknown angle measure).</p>	<p>5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. Understand that a cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume and can be used to measure volume. b. Understand that a solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a</p> <p>5.MD.C.4 Measure volume by counting unit cubes, using cubic centimeters, cubic inches, cubic feet, and improvised units. volume of n cubic units.</p> <p>5.MD.C.5 Relate volume to the operations of multiplication and addition and solve real-world and mathematical problems involving volume of right rectangular prisms. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent whole-number products of three factors as volumes (e.g., to represent the associative property of multiplication). b. Know and apply the formulas $V = l \times w \times h$ and $V = B \times h$ (where B represents</p>
--	--	--

	<p>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. For example, in a rectangle with dimensions 4 by 6, students can decompose the rectangle into 4×3 and 4×3 to find the total area of 4×6.</p> <p>d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.</p>				<p>the area of the base) for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real-world and mathematical problems. c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real-world problems.</p>
3.D	Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.				
	<p>D.8 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 areas or with the same area and different perimeters.</p>				

	3rd grade students:		4th grade students:		5th grade students:
3.A	Reason about shapes and their attributes.		4A. Draw and identify lines and angles and classify shapes by properties of their lines and angles.		A. Graph points on the coordinate plane to solve real-world and mathematical problems.
	<p>A.1 Understand that shapes in different categories may share attributes and that the shared attributes can define a larger category. Recognize rhombuses, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.</p> <p>A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area and describe the area of each part as $\frac{1}{4}$ of the area of the shape.</p> <p>A.3 Determine if a figure is a polygon.</p>		<p>A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse, straight, reflex), and perpendicular and parallel lines. Identify these in two-dimensional figures.</p> <p>A.2 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.</p> <p>A.3 Recognize and draw lines of symmetry for two-dimensional figures.</p>		<p>5.G.A.1 Graph ordered pairs and label points using the first quadrant of the coordinate plane. Understand in the ordered pair that the first number indicates the horizontal distance traveled along the x-axis from the origin and the second number indicates the vertical distance traveled along the y-axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate). 5.G.A.2 Represent real-world and mathematical problems by graphing points in the first quadrant of the coordinate plane and interpret coordinate values of points in the context of the situation.</p>
					B. Classify two dimensional figures into categories based on

					their properties.
					5.G.B.3 Classify two-dimensional figures in a hierarchy based on 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.