Fourth Grade

Domain Target	Cluster Target	Domain & Standard	Standard	Learning Target	A Specific Example	ONE Example of Assessment
Operations & Algebra *	**Operations & Algebra ***	**Operations & Algebra ***	**Operations & Algebra ***	**Operations & Algebra ***	**Operations & Algebra ***	**Operations & Algebra ***
I continue to practice addition and subtraction as I learn more models for multiplication and begin to explore efficient methods of division. **As I become better working with whole numbers and patterns, I can solve more complex real world problems.**	**I can solve real world problems that require me to add, subtract, multiply, divide whole numbers.**	4.OA-1	Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	I can explain how one factor in a multiplication problem changes the other factor to make the product.	35 is 5 times bigger than 7 AND 35 is 7 times bigger than 5.	Explain how the expression 3 x 7 = 21 tells you how many times larger 21 is than 3.
				I can write verbal statements about multiplicative comparisons as equations.	Write an expression that shows how much bigger 24 is than 8. (24 = 3 x 8)	John says that he is thinking of a number that is 7 times bigger than 3. Write an equation to express this relationship.
		4.OA-2	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. **[1]**	I can solve word problems involving multiplication and division by using drawings.	Draw a picture showing how to share 17 cookies among 5 friends.	Write an equation and solve to find how many times larger 2 1/2 is than 1/4. Also show how this could be solved with pictures.
				I can solve word problems involving multiplication and division by using equations and a symbol for an unknown.	If a problem says "John has 9 cards and it is 1/3 as many as his friend. They represent it with 9 = 1/3 x	
				I can explain the difference between a multiplicative comparison and an additive comparison.	If Mary is 11 and her sister is 22 she can explain how her sister is 11 years older OR 2 times older.	Alice says she is twice as old as her brother Jack. Jack says she is just 10 years older. Explain how both could be right.
		4.OA-3	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.	I can solve multi-step word problems using addition, subtraction, multiplication and division with remainders.	Three balls of yarn have 18' of yarn each and I need seven 9' pieces. How much is left over.	There are 17 members on each of three teams. How many vans will be necessary to carry them if each van carries 11 people.
				I can solve multi-step word problems using addition, subtraction, multiplication and division using equations where a symbol is used for the unknown.	If a problem says "John has 1 more than twice as many cards as Sam", they can model and solve it using J = 2 x S + 1.	Lucy's room has an area of 165 sq. ft. Write an equation to find the length if the width is 11 feet. Solve to find the length.
				I can determine if the answer makes sense by using mental math, estimation, and rounding.	Explain how Jack could estimate how much he needs to buy 32 pieces of candy at 19 cents each.	Explain how Molly might estimate how much money she needs to buy 4 items costing $4.12, $2.51, $7.99, and $1.48.
	I can explain how multiples and factors are related and used.	4.OA-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.	I can find all factor pairs for a whole number between 1 and 100.	The student can name all the factor of pairs of 64.	Which number has more factor pairs, 32 or 48?
				I can show how a whole number is a multiple of each of its factors.	Explain why 7 is a factor of 28 but 8 is not a factor of 28.	Name a number less than 100 that is a multiple of 2, 3, 5, and 6.
				I can determine if a whole number between 1 and 100 is a multiple of a particular one digit number.	Explain how to find all the single digit factors of 24.	Carl says that 3 is a factor of 53. Explain why this is incorrect.
				I can determine the numbers between 1-100 that are prime.	Name 3 numbers between 40 and 50 that have no other factors than one and itself.	Name a prime number between 50 and 60.
				I can determine the numbers between 1-100 that are composite.	Name 3 numbers between 40 and 50 that have more than one factor pair.	Name a composite number between 50 and 60 that is not even.
	I can create and explain various number and shape patterns.	4.OA-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.*	I can generate a number pattern that follows a given rule.	Generate the number pattern that follows the rule "half as big" and starts with 12.	Explain why the number pattern described at the left will never reach zero.
				I can generate a shape pattern that follows a given rule.	Generate a pattern of an arrow rotating clockwise 45 degrees each time.	Given the pattern of the arrow (described at left), how many steps will be necessary to return the arrow to its original position?
				I can look at a number pattern and determine additional patterns found within the sequence.	Explain from the number pattern above why we won't reach zero.	If a number pattern is created by the rule "add three", will there be more odd numbers or even numbers created?
				I can look at a shape pattern and determine additional patterns found within the sequence.	Explain from the shape pattern above why it takes 8 steps to return to the original position.	If a square is rotated about its center by 45 degrees for each step, how many steps will it take to look the same as it started?

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Domain Target	Cluster Target	Domain & Standard	Standard	Learning Target	A Specific Example	ONE Example of Assessment
Number Base Ten *	Number Base Ten *	Number Base Ten *	Number Base Ten *	Number Base Ten *	Number Base Ten *	Number Base Ten * Number Base Ten * Number Base Ten *
I can explain what place value means in our number system and can work with the four operations (addition, subtraction, multiplication, and division) in various ways.	**I can use and explain place value concepts for multi-digit whole numbers.**	4.NBT-1	4.NBT-1. 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 ÷ 70 = 10 by applying concepts of place value and*	I can look at a multi-digit number and determine that the digit to the left is 10 times greater than a given digit.	Explain why each column in a multi-digit number increases by 10 times.	What must you multiply 6 by to get the number 60? To get 600?
				I can use place value to help multiply or divide numbers.	Explain why 700 ÷ 70 = 10 without actually computing the problem.	Describe the size difference between 120 and 12.
		4.NBT-2	4.NBT-2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.	I can read and write multi-digit whole numbers using base-ten numbers.	Write the base-ten number name for 307. (3 hundreds and 7 ones)	Write the number that represents 2 hundreds and seven ones.
				I can read and write multi-digit whole numbers using number names.	Write the number name for 307.(3 hundred seven)	Write the number that represents three thousand sixty four.
				I can read and write multi-digit whole numbers using expanded form.	Write the expanded form for 357. (300 + 50 + 7)	Write the number represented by the expanded form 1000+300+9.
				I can compare the size of two multi-digit numbers using place value and record the results with <, >, =.	Explain why 811 is greater than 799 and write the expression using < or >.	Write an inequality comparing 813 and 831.
		4.NBT-3	4.NBT-3. Use place value understanding to round multi-digit whole numbers to any place.	I can round whole numbers to the nearest 10, 100, 1000, ...	Sue says that 245 rounds to 200 and Bill says that it rounds to 250. Who is correct and why?	The number 2,341 is between what two "hundreds numbers"? (ans = 2,300 & 2,400)
	I can use and explain how to do arithmetic with multi-digit numbers. **I am FLUENT with addition and subtraction.**	4.NBT-4	4.NBT-4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.	I can easily and accurately add and subtract multi-digit whole numbers.	513 - 248 = ?	Find 389 + 267 - 499
		4.NBT-5	4.NBT-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.	I can multiply a whole number up to four digits by a one-digit whole number.	2,406 x 7 = ?	Find 3,008 x 6
				I can multiply a two digit number by a two digit number using strategies based on place value and/or operation properties.	Explain two ways to multiply 23 x 15.	Explain how one might multiply 25 x 12 mentally without using the usual multiplication algorithm.
				I can explain 2-digit by 2-digit multiplication by using equations, rectangular arrays, and/or area models.	Draw an area model that shows the problem 23 x 15.	Draw three different arrays that would model the product of 24.
		4.NBT-6	4.NBT-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.	I can divide a single digit into numbers up to 9,999 in a variety of ways.	Divide 584 by 4 in two different ways.	Explain how knowing that 4 x 23 = 92 and 4 x 50 = 200 would allow you to more easily solve the problem of 292 ÷ 4.
				I can show and explain these division problems by using equations, rectangular arrays, and/or area models.	Draw and explain an area model for 426 ÷ 4.	Write an equation for this area model and solve for X. **x** **12** **area = 276**

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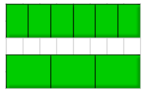
Domain Target	Cluster Target	Domain & Standard	Standard	Learning Target	A Specific Example	ONE Example of Assessment
Number and Operations- Fractions * Number and Operations- Fractions * Number and Operations Fractions * Number and Operations Fractions * Number and Operations Fractions * Number and Operations						
	I can order fractions and explain when they are equivalent.	4.NF-1	4.NF-1. Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) 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.	I can create and explain equivalent fractions using visual models.	Explain how this model shows that 1/3 = 2/6. 	Draw a picture to show that 3/4 and 6/8 are equivalent fractions.
				I can create and explain equivalent fractions even though the number and size of the parts of the fraction may change.	Explain how $\frac{2\times5}{3\times5}$ creates an equivalent fraction and what the top and bottom numbers mean.	Write five fractions that are equivalent to 3/5.
		4.NF-2	4.NF-2. 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 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.	I can compare two fractions by creating common numerators or common denominators.	Find the larger fraction between 3/5 and 3/7.	Put the following fractions in order from smallest to largest. 4/5, 3/4, 5/8, 7/10
				I can compare two fractions using a benchmark fraction.	Find the larger fraction between 5/8 and 3/7 by comparing each to 1/2.	What fraction is smaller between 15/16 and 3/2?
				I can explain why fraction comparisons are only valid when they refer to the same whole.	Paul's Pizza sells a 1/2 pizza that feeds 3. Patty's Pizza says that half of their pizza only feeds one person. How is this possible?	Explain a situation when 1/4 could be larger than 1/2.
				I can correctly record the comparison of fractions using <, >, = and I can defend my answers.	Write the expression for 3/8 is smaller than 3/5 and explain why.	Draw a model that shows why 3/5 < 3/4.
		4.NF-3a	4.NF-3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	I can explain the concepts of adding and subtracting fractions with like denominators.	Explain what 5/8 - 3/8 means in terms of the parts and the whole.	Draw a picture or model for 7/5 - 3/5 = 4/5.
		4.NF-3b	4.NF-3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b. b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.	I can decompose (break down) a fraction into a sum of fractions with the same denominator in more than one way.	Show at least two ways to break a fraction like 3/5 into parts.	Write three equations that show two fractions that add to 5/8.
				I can decompose (break down) a fraction into a sum of fractions with the same denominator and justify my answer using a visual fraction model.	Show one way to break $2\frac{1}{8}$ into parts using numbers AND using a picture.	Draw a fraction model that demonstrates one of your equations from above (two fractions that add to 5/8)
		4.NF-3c	4.NF-3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b. c. 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.	I can add mixed numbers with like denominators using a variety of strategies.	Explain at least two ways to add the following. $2\frac{1}{8}+3\frac{3}{8}$	The class was given the problem $2\frac{1}{8}+3\frac{3}{8}$ Students gave answers as 5 1/2, 44/8, 5 4/8, and 22/4. Explain how all these could be correct.
				I can subtract mixed numbers with like denominators using a variety of strategies.	Explain at least two ways to subtract the following. $5\frac{7}{8}-3\frac{3}{8}$	How must the first fraction be changed in the problem $3\frac{1}{8}-1\frac{3}{8}$ to allow us to subtract more easily?

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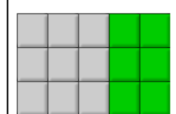
I can explain how operating on unit fractions is similar to whole numbers and can begin to understand how decimals and fractions are related.	**I can use and explain unit fractions and relate what I know about arithmetic of whole numbers to the arithmetic of unit fractions.**	4.NF-3d	4.NF-3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b. d. 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.	I can solve real-world problems involving addition of fractions.	Use fraction bars to show the combined distance of 2 3/8 miles and 3 1/8 miles.	Bob walked 2 3/8 miles and Sue walked 3 1/8 miles. How far did they walk together?
				I can solve real-world problems involving subtraction of fractions.	Draw two fraction bars to show the difference between 2 3/8 miles and 3 1/8 miles.	Bob walked 2 3/8 miles and Sue walked 3 1/8 miles. What is the difference in their distance?
		4.NF-4a	4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. 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 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*	I can explain how a fraction a/b is a multiple of 1/b.	Explain how many eighths are in 5/4 and write an equation that shows this relationship.	What number should go in the blank? (1/6) x ______ = 7/6
		4.NF-4b	4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number b. 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 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*	I can explain how multiplying a whole number times a fraction can be changed to a whole number times a unit fraction.	Explain another way to regroup the fraction parts to get the correct answer to 3 x (2/5).	What number should go in the blank? 3 x (2/5) = ______ x (1/5)
				I can use a visual fraction model to justify multiplying a fraction by a whole number.	 3 x 2/5 is the same as 6 x 1/5	If the fraction bar shown below represents 2/5, then what would three of these bars represent? 
		4.NF-4c	4.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. c. Solve word problems involving multiplication of a fraction by a whole number, 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 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*	I can solve word problems involving multiplication of a fraction by a whole number using visual fraction models and equations.	If each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Show the answer using fraction models or drawings.	If each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed?

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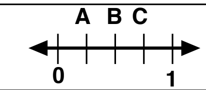
<table>
<tr><th>Domain Target</th><th>Cluster Target</th><th>Domain & Standard</th><th>Standard</th><th>Learning Target</th><th>A Specific Example</th><th>ONE Example of Assessment</th></tr>
<tr><td rowspan="6"></td><td rowspan="6">I can change fractions with denominators of 10 or 100 to decimals and can explain how these decimals differ in size.</td><td rowspan="2">4.NF-5</td><td rowspan="2">4.NF-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.</td><td>I can write fractions with denominators of 10 to equal fractions with denominators of 100.</td><td>Explain how to change 7/10 to an equal fraction with a denominator of 100.</td><td>Change 7/10 to an equal fraction with a denominator of 100.</td></tr>
<tr><td>I can add two fractions with the denominators of 10 and 100.</td><td>Explain how you could add 3/10 and 4/100 together.</td><td>Add 3/10 to 4/100.</td></tr>
<tr><td rowspan="2">4.NF-6</td><td rowspan="2">4.NF-6. Use decimal notation for fractions with denominators 10 or 100.
For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</td><td>I can write a fraction with denominators of 10 or 100 as decimals.</td><td>Change 32/100 to a decimal.</td><td>Rewrite 0.62 as a fraction with a denominator of 100.</td></tr>
<tr><td>I can locate a decimal on a number line.</td><td>Locate 0.32 on the number line.</td><td>Which letter on the number line would represent 0.75? 
</td></tr>
<tr><td rowspan="2">4.NF-7</td><td rowspan="2">4.NF-7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the 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.</td><td>I can compare two decimals, explain my reasoning, and record the results using <, >, or =.</td><td>Explain how you could determine which is larger, 0.45 or 0.51.</td><td>Which symbol (<, >, =) should be put into the blank to make the expression true?
0.45 _____ 0.51</td></tr>
<tr><td>I can explain that comparisons between two decimals are only valid when they refer to the same whole.</td><td>Explain a case when .25 of something might be greater than .5 of something else.</td><td>John says that when he ate .25 of his cake he got more than Sue who ate .5 of her cake. Explain how this might be possible.</td></tr>
<tr><td colspan="7">Measurement & Data * Measurement & Data * Measurement & Data * Measurement & Data * Measurement & Data * Measurement & Data * Measurement & Data * Measurement & Data * Measurement</td></tr>
<tr><td rowspan="7"></td><td rowspan="7">I can explain how unit size affects the measurement and can solve real world problems involving measurement, perimeter, and area.</td><td rowspan="3">4.MD-1</td><td rowspan="3">4.MD-1. 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), ...</td><td>I can explain the relative sizes of units within the same system.</td><td>Explain how a kilometer, a meter, and a centimeter are different.</td><td>How many times heavier is a pound than an ounce?</td></tr>
<tr><td>I can translate the larger units into equivalent smaller units.</td><td>Explain how to change 120 minutes into hours.</td><td>How many inches long is a snake that measures 4 feet?</td></tr>
<tr><td>I can record measurement equivalence in a two column table or as number pairs.</td><td>Create a conversion table for changing feet to inches.</td><td>What numbers go in the blank cells?<table><tr><th>yards</th><th>feet</th></tr><tr><td>1</td><td>3</td></tr><tr><td>2</td><td>6</td></tr><tr><td>3</td><td></td></tr><tr><td>4</td><td>12</td></tr><tr><td>5</td><td></td></tr></table></td></tr>
<tr><td rowspan="4">4.MD-2</td><td rowspan="4">4.MD-2. 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.</td><td>I can solve real-world problems that require arithmetic with distances, liquid volumes, masses, time, and money.</td><td>How much time will elapse between 2:45 and 6:30?</td><td>Mary want to divide 1 liter of soda between 12 party cups. How many milliliters will each cup contain?</td></tr>
<tr><td>I can use the four operations to solve word problems using simple fractions and decimals.</td><td>John has 3 boards with lengths of 2.3 ft., 1 1/2ft., and 18 inches. What will be the combined length?</td><td>It takes John 35 minutes</td></tr>
<tr><td>I can use the four operations to solve word problems expressing measurements given in a larger unit in terms of a smaller unit.</td><td>John has run 2 km. What is that distance in meters?</td><td>How many cups holding 150 milliliters will it take to fill a 2 liter bottle?</td></tr>
<tr><td>I can use number lines and diagrams to illustrate solutions.</td><td>Show how to add 1 1/4 hours to a time of 9:30 using a time line scale.</td><td></td></tr>
</table>

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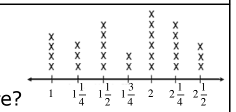
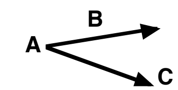
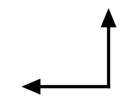
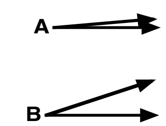
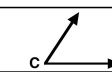
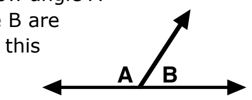
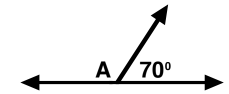
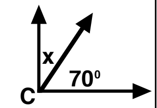
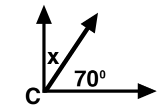
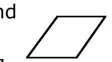
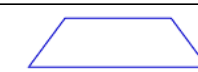
I can measure and use measurement to solve a variety of real world problems.		4.MD-3	4.MD-3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*	I can solve real-world problems involving the perimeter of rectangles.	Draw at least three different rectangles that have a perimeter of 24 feet.	If the perimeter of a rectangle is 50 meters and the width is 10 meters, what is the length?
				I can solve real-world problems involving the area of rectangles.	Explain how to make the largest rectangular area given 24 feet of fence.	The area of the floor of the living room is 210 square feet. If it has a width of 14 feet, what is the length?
	I can make and explain a line plot.	4.MD-4	4.MD-4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*	I can make a line plot to display a set of data in fractions measured to the nearest 1/2, 1/4, or 1/8 units.	Create a line plot from the measurement of student pencils in the classroom to the nearest quarter of an inch.	Create a line plot from the following data: 1/2; 1 1/2; 3/4; 1; 1/2; 1 1/4; 3/4; 1; 3/4; 3/4; 1; 3/4; 1 1/4.
				I can use information from a line plot to solve problems involving addition and subtraction of fractions.	What is the difference in length between the most common length pencil in the classroom and the shortest pencil?	What is the difference between the most common measure and the largest measure? 
	I can draw, measure, and explain different concepts of angles.	4.MD-5a	4.MD-5. 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.	I can explain how an angle is made of two rays with common endpoints	Draw and explain the parts of an angle.	Which letter shows the vertex of the angle? 
				I can explain how an angle is measured by its reference to a circle.	Explain how to measure an angle.	The angle shown would represent what part of an entire circle? 
				I can define and explain a "one-degree angle" and how it is used to measure angles.	Explain how the units used to measure angles (degrees) are defined and used.	What fractional part of a circle is an angle degree measure of one degree?
		4.MD-5b	4.MD-5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.	I can explain how the measure of an angle is multiple of the "one-degree angle".	Explain how many "one degree angles" it takes to be equivalent to another given angle.	Angle A measures one degree. Angle B is 20 times larger than angle A. What is the measure of angle B? 
		4.MD-6	4.MD-6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	I can use a protractor to measure whole degree angles.	The student can use a protractor to properly measure an angle.	Measure angle C. 
				I can draw an angle of specified size, using a protractor.	The student can draw an angle of a given size with a protractor.	Draw an angle of 60 degrees with the given protractor.

Fourth Grade

Domain Target	Cluster Target	Domain & Standard	Standard	Learning Target	A Specific Example	ONE Example of Assessment
		4.MD-7	4.MD-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 the 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.	I can explain how when angles are joined in non-overlapping parts, the total measure is the sum of the parts	Explain how angle A and angle B are related in this diagram. 	What is the measure of angle A? 
				I can solve real-world problems involving addition and/or subtraction to find unknown angles on a diagram.	Write an equation to represent the value of angle x if angle C is a right angle. 	Write an equation and and solve for x if angle C is a right angle. 
Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometry * Geometr						
		4.G-1	4.G-1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	I can draw and identify a point.	For an online mathematics dictionary on these and other terms see:	These are pretty straight forward skills of having a student properly represent a drawing of each of these and be able to identify each one. Be careful to not always orient these drawings the same each time.
				I can draw and identify a line.		
				I can draw and identify a line segment.		
				I can draw and identify a ray.		
				I can draw and identify a right angle.		
				I can draw and identify an acute angle.	http://www.amathsdictionaryforkids.com	
				I can draw and identify an obtuse angle.		
				I can draw and identify perpendicular lines.		
				I can draw and identify parallel lines.		
I can draw and identify lines and angles and use these to classify shapes.	**I can draw and identify lines and angles and use these to classify shapes.**	4.G-2	4.G-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.	I can put 2-D figures in like groups based on whether certain sides are parallel or perpendicular.	The student can group shapes based on whether the sides are parallel or perpendicular.	Give students an array of shapes and have the students sort them in the appropriate groups. Students should be able to articulate in precise mathematical language why the groups are classified the way they are.
				I can put 2-D figures in like groups based on whether certain angles are acute, obtuse, or right.	The student can group shapes based on the types of angles.	
				I can identify right angles and can group right triangles from other triangles.	The student can group triangles based on whether they contain a right angle or not.	
		4.G-3	4.G-3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.	I can identify line-symmetry.	Explain what line symmetry is and if this figure has line symmetry. 	Explain why the line on the figure shown is NOT a line of symmetry. 
				I can identify figures that have symmetry and can then draw the lines of symmetry.	Explain how you might find all the lines of symmetry from this figure by folding. 	Draw all the lines of symmetry for the figure shown. 

[1] See Glossary, Table 2 (shown below).
[2] Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000.
[3] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4,
[4] Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general.

	Unknown Product	Group Size Unknown ("How many in each group?" Division)	Number of Groups Unknown ("How many groups?" Division)
	$3 \times 6 = ?$	$3 \times ? = 18$, and $18 \div 3 = ?$	$? \times 6 = 18$, and $18 \div 6 = ?$
Equal Groups	There are 3 bags with 6 plums in each bag. How many plums are there in all? *Measurement example.* You need 3 lengths of string, each 6 inches long. How much string will you need altogether?	If 18 plums are shared equally into 3 bags, then how many plums will be in each bag? *Measurement example.* You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?	If 18 plums are to be packed 6 to a bag, then how many bags are needed? *Measurement example.* You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?
Arrays,[4] Area[5]	There are 3 rows of apples with 6 apples in each row. How many apples are there? *Area example.* What is the area of a 3 cm by 6 cm rectangle?	If 18 apples are arranged into 3 equal rows, how many apples will be in each row? *Area example.* A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?	If 18 apples are arranged into equal rows of 6 apples, how many rows will there be? *Area example.* A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
Compare	A blue hat costs \$6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? *Measurement example.* A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?	A red hat costs \$18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? *Measurement example.* A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?	A red hat costs \$18 and a blue hat costs \$6. How many times as much does the red hat cost as the blue hat? *Measurement example.* A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?
General	$a \times b = ?$	$a \times ? = p$, and $p \div a = ?$	$? \times b = p$, and $p \div b = ?$

[4]The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.

[5]Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

[1] These take apart situations can be used to show all the decompositions of a given number. The associated equations, which have the total on the left of the equal sign, help children understand that the = sign does not always mean makes or results in but always does mean is the same number as.

[2] Either addend can be unknown, so there are three variations of these problem situations. Both Addends Unknown is a productive extension of this basic situation, especially for small numbers less than or equal to 10.

[3] For the Bigger Unknown or Smaller Unknown situations, one version directs the correct operation (the version using more for the bigger unknown and using less for the smaller unknown). The other versions are more difficult.

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Created 1-3-2011