

Essential Questions	Domains & Clusters	4 <sup>th</sup> Grade Skill		4	5	Vocabulary	Resources
<p>How can we use various strategies to solve a word problem?</p> <p>How are division and multiplications related to subtraction and addition?</p> <p>What patterns can we find in multiplication and division facts?</p>	<p><b>Operations and Algebraic Thinking (OA)</b></p> <p>Use the four operations with whole numbers to solve problems.</p>	4.OA.1a	Translate verbal statements involving multiplication to numeric equations (vice versa).	M		Numeric equations Multiplication Verbal statements Equations Commutative property Divide Multiply Unknown factor Repeated addition Add Subtract Rounding Estimation Remainder Prime Composite Factors Multiples Rule Input Output Pattern Base ten	
		4.OA.1b	Explain the commutative property of multiplication.	M			
		4.OA.1c	Write factors of a given product.	M			
	4.OA.2a	Compare multiplication to repeated addition.	M				
	4.OA.2b	Solve word problems for an unknown factor using multiplication or division (use a symbol for the unknown factor).	M				
	4.OA.3a	Solve multi-step word problem with whole numbers using all four operations.	M				
	4.OA.3b	Write an equation from a word problem using a letter to represent the unknown quantity.	M				
	4.OA.3c	Justify the reasonableness of solutions using estimation, mental computation, and rounding.	M				
	4.OA.3d	Interpret remainders in division word problems.	M				
	4.OA.4a	Identify all the <b>factor pairs</b> for a whole number in the range.	M				
	4.OA.4b	Explain the relationship between a whole number and its factors.	M				
	4.OA.4c	Determine if a whole number is a <b>multiple</b> of a given one digit number.	M				
	4.OA.4d	Determine if a whole number is <b>prime</b> or <b>composite</b> .	M				
5.OA.5a	Identify the pattern or rule for a given set of numbers or shapes.	M					
5.OA.5b	Generate a number or shape pattern that follows a given rule.	M					

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		4.NBT.1a	Identify place value of a multi-digit whole number up to millions.	M		Place value names Digit	

<b>Numbers and Operations in Base Ten (NBT)</b>	4.NBT.1b	Define a number in one place as 10 times its value in the place to its right.	M		Compare Greater than Less than Equal to Standard form Word form Expanded form Rounding Standard algorithm Multiply Properties of operations Place value names Equations Rectangular arrays Area models Divisor Remainder Quotient Dividend Operations
	4.NBT.2a	Read and write whole numbers in standard form, word form, and expanded form up to one million.	M		
	4.NBT.2b	Compare and order whole numbers using $<$ , $>$ , $=$ up to one million.	M		
	4.NBT.2c	Compare and order whole numbers based on the meaning of place value.	M		
	4.NBT.3a	Explain rules for rounding.	M		
	4.NBT.3b	Round multi-digit whole numbers up to a million to any place value.	M		
	4.NBT.4	Add and subtract fluently within 1,000,000 (apply fluency with basic math facts in columns).	M		
	4.NBT.5a	Multiply whole numbers up to 4-digit by 1-digit and 2-digit by 2-digit using place value strategies and properties.	M		
	4.NBT.5b	Illustrate and explain multiplication calculations through equations, rectangular arrays, and/or area models.	M		
	4.NBT.6a	Divide whole numbers with up to 4-digit dividends and 1-digit divisors; quotients may contain remainders.	M		
	4.NBT.6b	Divide whole numbers with up to 4-digit dividends and 2-digit divisors; quients may contain remainders.	I	M	
	4.NBT.6c	Draw and explain calculations through equations, rectangular arrays, and/or area models	M		
	4.NBT.6d	Divide whole numbers using strategies based on place value, properties of operations, and the relationships between multiplication and division.	M		

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	<b>Number and Operations Fractions (NF)</b>	4.NF.1a	Calculate equivalent fractions.	M		Numerator
		4.NF.1b	Draw a fraction model to identify equivalent fractions.	M		Denominator
		4.NF.1c	Explain why multiplying a fraction by an equivalent for	M		Fraction

How do you interpret remainders?	Extend understanding of fraction equivalence and ordering.	of 1 ( $2/2$ , $3/3$ , etc.) results in an equivalent fraction.				Common denominator Common numerator Benchmark fractions Visual fraction model Greater than Less than Equal to  Part Whole Fraction(s) Addition Subtraction Sum Decomposition Visual fraction model Equation Mixed number Improper fraction Equivalent Properties of operations Whole Total Difference Unit fraction Multiple Product
		4.NF.2a	Compare and order two fractions with unlike denominators by creating common denominators or common numerators.	M		
		4.NF.2b	Compare and order two fractions with unlike numerators and denominators by comparing them to benchmark fractions.	M		
		4.NF.2c	Explain that comparisons between two fractions are only valid when referring to the same whole.	M		
		4.NF.2d	Record comparisons between fractions with less than, greater than, or equal to symbols.	M		
		4.NF.2e	Justify comparison between two fractions using the same denominator.	M		
		4.NF.3a	Explain adding fraction as joining parts of the same whole.	M		
		4.NF.3b	Explain subtracting fraction as separating parts of the same whole.	M		
		4.NF.3c	Rewrite a fraction into a sum of smaller fraction with the same denominator.	M		
		4.NF.3d	Explain why rewriting a fraction is equivalent to the original fraction by using a visual fraction model.	M		
		4.NF.3e	Add and subtract mixed numbers with like denominators using properties of operations, equivalent fractions, and the relationship between addition and subtraction.	I	M	
		4.NF.3f	Convert mixed numbers to improper fractions to add and subtract fractions with like denominators.	M		
		4.NF.3g	Solve word problems that involve addition and subtraction of fractions with like denominators referring to the same whole.	M		
		4.NF.3h	Draw visual fraction models or create equations to representing word problems.	M		
		4.NF.4a	Identify the relationship between repeated addition and multiplication.	M		
		4.NF.4b	Generate multiples of the fraction $1/b$ .	M		
		4.NF.4c	Multiply a fraction by a whole number by decomposing the fraction as the numerator multiplied by the unit fraction of its denominator.	M		

	4.NF.4d	Create a numeric expression from a word problem involving the multiplication of a whole number and a fraction.	M		Numerator Denominator Equivalent fractions Add Decimal Tenths Hundredths Number line Fraction Greater than Less than
	4.NF.4e	Solve word problems involving the multiplication of whole numbers and fractions.	M		
	4.NF.5a	Convert fraction with a denominator of 10 to an equivalent fraction with a denominator of 100.	M		
	4.NF.5b	Add two fractions with denominators of 10 and 100.	M		
	4.NF.6a	Convert fractions with denominators of 10 and 100 to decimals.	M		
	4.NF.6b	Locate decimals on a number line.	M		
	4.NF.6c	Describe lengths in decimal form.	M		
	4.NF.7a	Compare and order decimals to hundredths.	M		
	4.NF.7b	Compare decimals using greater than, less than, and equal to symbols.	M		

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How do we apply	<b>Measurement &amp; Data</b>  Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.	4.MD.1a	Order units of measurement within a given system.	M		Units Equivalent Standard measurement units Metric System units Conversion table Mass Volume Time intervals  Money Distance Fractions Decimals Operations
		4.MD.1b	Convert larger units of measurements to smaller units of measurements within a given system (1 ft. = 12 in. or 1 m. = 100 cm.)	M		
		4.MD.1c	Construct a conversion table to record equivalent measurements of two units within a given system.	M		
		4.MD.1d	Write measurements equivalents as a set of number pairs.	M		
		4.MD.2a	Identify the operation(s) needed to solve a word problem.	M		
		4.MD.2b	Solve word problems involving simple fractions and decimals.	M		
		4.MD.2c	Solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money.	M		
		4.MD.2d	Convert larger units measurements to smaller unit	M		

perimeter and area formulas?					Rectangle Perimeter Formula Area Width
		4.MD.2e	Construct diagrams such as line diagrams to show conversions in measurements.	M	
How do you know if a shape is symmetrical?	Represent and interpret data.	4.MD.3a	Calculate the area and perimeter for rectangles in word problems.	M	
		4.MD.3b	Solve word problems involving finding the missing factor/side of an area problem.	M	
How do you measure angles?	Geometric measure: understand the concepts of angle and measure angles.	4.MD.4a	Construct a line plot to display data of fractional measurements.	M	
		4.MD.4b	Compare data displayed in the line plot to solve addition and subtraction problems.	M	
How do you find the unknown angle?		4.MD.4c	Identify the appropriate operation needed to solve a word problem.	M	
		4.MD.5a	Measure angles with a protractor (half circle protractors and full circle protractors).	M	
How do we correctly select which unit of measurement to use?		4.MD.5b	Define a “one degree angle” as an angle that turns 1/360 of a circle.	M	
		4.MD.5c	Define an angle measure as the fraction of the circular arc between two rays with a common endpoint.	M	
		4.MD.6a	Measure angles with whole number degrees using a protractor.	M	
		4.MD.6b	Sketch angles of a specified measure.	M	
		4.MD.7a	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 measure of the parts.	M	
		4.MD.7b	Solve addition and subtraction problems to find the unknown angle in a diagram.	M	
		4.MD.7c	Create an algebraic expression in order to solve for a missing angle measure.	M	
		4.MD.7d	Identify the appropriate operation needed to solve a word problem.	M	
					Line plot Fractions  Angle Circular arc Points Rays Endpoints Degree Intersect “One degree angle” Protractor N degrees Straight

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How do we draw and identify characteristics of two-dimensional figures?	<b>Geometry</b> Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	4.G.1a Draw points, lines, line segments, rays, angles (right, acute, obtuse), and parallel and perpendicular.	M		Obtuse Acute Rights Vertex Equation Variable Angle Difference Total Right angle Right triangle	
		4.G.1b Identify points, lines, line segments, rays, angles, (right, acute, obtuse), in 2D figures.	M			
		4.G.1c Classify angles as right, acute, or obtuse.	M			
		4.G.2a Classify 2D figures based on the presence or absence of parallel or perpendicular lines.	M			
		4.G.2b Classify 2D figures on the presence or absence of specified angles measures.	M			
		4.G.2c Define right triangles as their own category and identify right triangles in drawings.	M			
		4.G.3a Define lines of symmetry as a line across a figure such that when the figure is folded on this line, both halves match up.	M			
		4.G.3b Identify lines of symmetry in two-dimensional figures.	M			
		4.G.3c Draw lines of symmetry on two-dimensional figures.	M			