

## Grade 4 Math TEKS and Related Prior Learning TEKS

	Grade 4 Math TEKS/SE	Prior Learning TEKS/SE
4.2	Number and operations. The student applies mathematical process standards to represent, compare, and order whole numbers and decimals and understand relationships related to place value. The student is expected to:	
4.2A	interpret the value of each place-value position as 10 times the position to the right and as one-tenth of the value of the place to its left.	3.2B describe the mathematical relationships found in the base-10 place value system through the hundred thousands place.
4.2B	represent the value of the digit in whole numbers through 1,000,000,000 and decimals to the hundredths using expanded notation and numerals.	3.2A compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate.
4.2C	compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols $>$ , $<$ , or $=$ .	3.2D compare and order whole numbers up to 100,000 and represent comparisons using the symbols $>$ , $<$ , or $=$ .
4.2D	round whole numbers to a given place value through the hundred thousands place.	3.4B round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems.
4.2E	represent decimals, including tenths and hundredths, using concrete and visual models and money.	
4.2F	compare and order decimals using concrete and visual models to the hundredths.	
4.2G	relate decimals to fractions that name tenths and hundredths.	
4.2H	determine the corresponding decimal to the tenths or hundredths place of a specified point on a number line.	3.2C represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers.
4.3	Number and operations. The student applies mathematical process standards to represent and generate fractions to solve problems. The student is expected to:	
4.3A	represent a fraction $a/b$ as a sum of fractions $1/b$ , where $a$ and $b$ are whole numbers and $b > 0$ , including when $a > b$ .	3.3D compose and decompose a fraction $a/b$ with a numerator greater than zero and less than or equal to $b$ as a sum of parts $1/b$ .
4.3B	decompose a fraction in more than one way into a sum of fractions with the same denominator using concrete and pictorial models and recording results with symbolic representations.	3.3D compose and decompose a fraction $a/b$ with a numerator greater than zero and less than or equal to $b$ as a sum of parts $1/b$ .

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4.3C	determine if two given fractions are equivalent using a variety of methods.	3.3G explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model.
4.3D	compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$ , $=$ , or $<$ .	3.3H compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models.
4.3E	represent and solve addition and subtraction of fractions with equal denominators using objects and pictorial models that build to the number line and properties of operations.	
4.3F	evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, $\frac{1}{4}$ , $\frac{1}{2}$ , $\frac{3}{4}$ , and 1, referring to the same whole.	
4.3G	represent fractions and decimals to the tenths or hundredths as distances from zero on a number line.	3.3A represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines.  3.3B determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line.
4.4	Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:	
4.4A	add and subtract whole numbers and decimals to the hundredths place using the standard algorithm.	3.4A solve with fluency one- step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction.
4.4B	determine products of a number and 10 or 100 using properties of operations and place value understandings.	3.4E represent multiplication facts by using a variety of approaches such as repeated addition, equal- sized groups, arrays, area models, equal jumps on a number line, and skip counting.

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		3.4F recall facts to multiply up to 10 by 10 with automaticity and recall the corresponding division facts.
4.4C	represent the product of 2 two-digit numbers using arrays, area models, or equations, including perfect squares through 15 by 15.	3.4G use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.
4.4D	use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.	3.4G use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties.
4.4E	represent the quotient of up to a four-digit whole number divided by a one-digit whole number using arrays, area models, or equations.	3.4K solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts.
4.4F	use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor.	
4.4G	round to the nearest 10, 100, or 1,000 or use compatible numbers to estimate solutions involving whole numbers.	3.4B round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems.
4.4H	solve with fluency one- and two-step problems involving multiplication and division, including interpreting remainders.	
4.5	Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:	
4.5A	represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity.	3.5A represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations.  3.5B represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations.

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		3.5D determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product.
4.5B	represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence.	3.5E represent real-world relationships using number pairs in a table and verbal descriptions.
4.5C	use models to determine the formulas for the perimeter of a rectangle ( $l + w + l + w$ or $2l + 2w$ ), including the special form for perimeter of a square ( $4s$ ) and the area of a rectangle ( $l \times w$ ).	
4.5D	solve problems related to perimeter and area of rectangles where dimensions are whole numbers.	
4.6	Geometry and measurement. The student applies mathematical process standards to analyze geometric attributes in order to develop generalizations about their properties. The student is expected to:	
4.6A	identify points, lines, line segments, rays, angles, and perpendicular and parallel lines.	3.6B use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.
4.6B	identify and draw one or more lines of symmetry, if they exist, for a two-dimensional figure.	3.6B use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.
4.6C	apply knowledge of right angles to identify acute, right, and obtuse triangles.	3.6B use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories.
4.6D	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.	3.6A classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language.

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4.7	Geometry and measurement. The student applies mathematical process standards to solve problems involving angles less than or equal to 180 degrees. The student is expected to:	
4.7A	illustrate the measure of an angle as the part of a circle whose center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers.	
4.7B	illustrate degrees as the units used to measure an angle, where $\frac{1}{360}$ of any circle is one degree and an angle that "cuts" $\frac{n}{360}$ out of any circle whose center is at the angle's vertex has a measure of $n$ degrees. Angle measures are limited to whole numbers.	
4.7C	determine the approximate measures of angles in degrees to the nearest whole number using a protractor.	
4.7D	draw an angle with a given measure.	
4.7E	determine the measure of an unknown angle formed by two non-overlapping adjacent angles given one or both angle measures.	
4.8	Geometry and measurement. The student applies mathematical process standards to select appropriate customary and metric units, strategies, and tools to solve problems involving measurement. The student is expected to:	
4.8A	identify relative sizes of measurement units within the customary and metric systems.	
4.8B	convert measurements within the same measurement system, customary or metric, from a smaller unit into a larger unit or a larger unit into a smaller unit when given other equivalent measures represented in a table.	
4.8C	solve problems that deal with measurements of length, intervals of time, liquid volumes, mass, and money using addition, subtraction, multiplication, or division as appropriate.	<p>3.7B determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems.</p> <p>3.7C determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes.</p> <p>3.7D determine when it is appropriate to use measurements of liquid volume (capacity) or weight.</p>

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		3.7E determine liquid volume (capacity) or weight using appropriate units and tools.
4.9	Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data. The student is expected to:	
4.9A	represent data on a frequency table, dot plot, or stem-and-leaf plot marked with whole numbers and fractions.	3.8A summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals.
4.9B	solve one- and two-step problems using data in whole number, decimal, and fraction form in a frequency table, dot plot, or stem-and-leaf plot.	3.8B solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals.
4.10	Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security. The student is expected to:	
4.10A	distinguish between fixed and variable expenses.	3.9A explain the connection between human capital/ labor and income.
4.10B	calculate profit in a given situation.	3.9B describe the relationship between the availability or scarcity of resources and how that impacts cost.
4.10C	compare the advantages and disadvantages of various savings options.	3.9E list reasons to save and explain the benefit of a savings plan, including for college.
4.10D	describe how to allocate a weekly allowance among spending; saving, including for college; and sharing.	2.11C distinguish between a deposit and a withdrawal.
4.10E	describe the basic purpose of financial institutions, including keeping money safe, borrowing money, and lending.	3.9D explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest.