Mathematics TEKS Grade Level Changes/Additions Summary

Kindergarten

New TEKS	• K.2D recognize instantly the quantity of a small group of objects in organized and random arrangements • K.2I compose and decompose numbers up to 10 with objects and pictures • K.6F create two-dimensional shapes using a variety of materials and drawings • K.7A give an example of a measurable attribute of a given object, including length, capacity, and weight
Moved TEKS	• 1.1C identify individual coins by name and value and describe relationships among them • 1.7C describe the relationship between the size of the unit and the number of units needed to measure the length of an object • 1.7B compare and order two or more concrete objects according to length (from longest to shortest) • 1.7D compare and order the area of two or more two-dimensional surfaces (from covers the most to covers the least) • 1.7E compare and order two or more containers according to capacity (from holds the most to holds the least) • 1.7F compare and order two or more objects according to weight/mass (from heaviest to lightest) • 1.7G compare and order two or more objects according to relative temperature (from hottest to coldest) • 1.8A order three or more events according to duration • 1.12A explain and record objects, manipulatives, and technology to solve problems • 1.12B relate informal (every day) language to mathematical language and symbols • 1.13 justify his or her thinking using objects, words, pictures, numbers, and technology • 2.13A explain and record objects, manipulatives, and technology to solve problems • 2.13B relate informal (every day) language to mathematical language and symbols • 2.14 justify his or her thinking using objects, words, pictures, numbers, and technology

Grade 1

New TEKS	• 1.2A recognize instantly the quantity of structured arrangements • 1.3A use concrete and pictorial models to determine the sum of a multiple of ten and a one digit number in problems up to 99 • 1.3C compose 10 with two or more addends with and without concrete objects • 1.5A recite numbers forward and backward from any given number between 1 and 120 • 1.5E understand that the equal sign represents a relationship where expressions on each side of the equal sign represent the same value(s) • 1.6B distinguish between attributes that define a two-dimensional or three-dimensional figure and attributes that do not define the shape • 1.6C create two-dimensional figures, including circles, triangles, rectangles, and squares as special rectangles, rhombuses, and hexagons • 1.6H identify examples and non-examples of halves and fourths
Moved TEKS	• 2.1C use place value to compare and order whole numbers to 999 and record the comparisons using numbers and symbols (<,=,>) • 2.3D determine the value of a collection of coins up to one dollar

Grade 2

New TEKS	• 2.3B explain that the more fractional parts used to make a whole, the smaller the part; and the fewer the fractional parts, the larger the part • 2.3C use concrete models to count fractional parts beyond one whole using words and recognize how many parts it takes to equal one whole • 2.3D identify examples and non-examples of halves, fourths, and eighths • 2.10A explain that the length of a bar in a bar graph or the number of pictures in a pictograph represents the number of data points for a given category • 2.10C write and solve one-step word problems involving addition or subtraction using data represented within pictographs and bar graphs with intervals of one
Moved TEKS	• 3.11A use linear measurement tools to estimate and measure lengths using standard units • 3.12B tell and write time shown on analog and digital clocks

Grade 3

New TEKS	• 3.2B described the mathematical relationships found in the base-10 place value system through the hundred thousands place • 3.4I determine if a number is even or odd using divisibility rules • 3.5C describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24 • 3.6D decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area • 3.6E decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape • 3.7D determine when it is appropriate to use measurements of liquid volume (capacity) or weight
Moved TEKS	• 4.4 multiply and divide to solve meaningful problems involving whole numbers • 7.6C use properties to classify three-dimensional figures, including pyramids, cones, prisms, and cylinders • 4.12B use tools, such as a clock with gears or a stopwatch, to solve problems involving elapsed time • 4.11A estimate and use measurement tools to determine length (including perimeter), area, capacity, and weight/mass using standard units SI (metric) and customary • 4.11C use concrete models of standard cubic units to measure volume • 4.11D estimate volume in cubic units

Grade 4

- 4.2A interpret the value of each place-value position as ten times the position to the right and as onetenth of the value of the place to its left
- 4.3F evaluate the reasonableness of sums and differences of fractions using benchmark fractions 0, ¼, ½, ¾, and 1, referring to the same whole

Moved TEKS

- 3.9C identify lines of symmetry in two-dimensional geometric figures
- 5.3E model situations using addition and/or subtraction involving fractions with like denominators using concrete objects, pictures, words, and numbers
- 5.3C use division to solve problems involving whole numbers (no more than two-digit divisors and three-digit dividends without technology) including interpreting the remainder within a given context
- 5.10B connect models for perimeter, area, and volume with their respective formulas
- 6.6B identify relationships involving angles in triangles and quadrilaterals
- 6.8C measure angles
- 7.6B use properties to classify triangles and Quadrilaterals
- 7.6A use angle measurements to classify pairs of angles as complementary or supplementary
- 5.11B solve problems involving elapsed time

Grade 5

New TEKS

- 5.2C round decimals to tenths or hundredths
- 5.4C generate a numerical pattern when given a rule in the form y=ax or y = x + a and graph
- 5.4D recognize the difference between additive and multiplicative numerical patterns give in a table or graph
- 5.4E describe the meaning of parentheses and brackets in a numeric expression
- 5.8A describe the key attributes of the coordinate plane, including perpendicular number lines (axes) where the intersection (origin) of the two lines coincides with zero on each number line and the given point (0,0); the x-coordinate, the first number in an ordered pair, indicates movement parallel to the x-axis starting at the origin; and the y-coordinate, the second number, indicates movement parallel to the y-axis starting at the origin
- 5.9C solve one- and two-step problems using data from a frequency table, dot plot, bar graph, stem-and-leaf plot, or scatter plot

Moved TEKS

- 3.11F use concrete models that approximate cubic units to determine the volume of a given container or other three-dimensional geometric figures
- 4.11C use concrete models of standard cubic units to measure volume
- 4.11D estimate volume in cubic unit
- 7.2A represent multiplication and division situations involving fractions and decimals with models, including concrete objects, pictures, words, and numbers
- 6.2A model addition and subtraction situations involving fractions with objects, pictures, words, and numbers
- 6.2B use addition and subtraction to solve problems involving fractions and decimals
- 6.2E use order of operations to simplify whole number expressions (without exponents) in problem solving situations
- 6.10A select and use an appropriate representation for presenting and displaying different graphical representations of the same data including line plot, line graph, bar graph, and stem and leaf plot

Grade 6

New TEKS	• 6.2A classify whole numbers, integers, and rational numbers using a visual representation such as a Venn diagram to describe relationships between sets of numbers • 6.2B identify a number, its opposite, and its absolute value • 6.2E extend representations for division to include fraction notation such as a/b represents the same number as a ÷ b where b ≠ 0 • 6.3A recognize that dividing by a rational number and multiplying by its reciprocal result in equivalent values • 6.3B determine, with and without computation, whether a quantity is increased or decreased when multiplied by a fraction, including values greater than or less than one • 6.4F represent benchmark fractions and percents such as 1%, 10%, 25%, 33 1/3%, and multiples of these values using 10 by 10 grids, strip diagrams, number lines, and numbers • 6.5B solve real-world problems to find the whole given a part and the percent, to find the part given the whole and the percent, and to find the percent given the part and the whole, including the use of concrete and pictorial models • 6.5C use equivalent fractions, decimals, and percents to show equal parts of the same whole • 6.7B distinguish between expressions and equations verbally, numerically, and algebraically • 6.7C determine if two expressions are equivalent using concrete models, pictorial models, and algebraic representations • 6.8B model area formulas for parallelograms, trapezoids, and triangles by decomposing and rearranging parts of these shapes • 6.9B represent solutions for one-variable, one-step equations and inequalities on number lines • 6.12B use the graphical representation of numeric data to describe the center, spread, and shape of the data distribution • 6.13B distinguish between situations that yield data with and without variability
Moved TEKS	• 7.1A compare and order integers and positive rational numbers • 8.1A compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals • 8.1A compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals • 7.2C use models, such as concrete objects, pictorial models, and number lines, to add, subtract, multiply, and divide integers and connect the actions to algorithms • 8.2B use appropriate operations to solve problems involving rational numbers in problem situations • 7.2B use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals • 7.3A estimate and find solutions to application problems involving percent • A.1A describe independent and dependent quantities in functional relationships • 7.2E simplify numerical expressions involving order of operations and exponents • A.4B use the commutative, associative, and distributive properties to simplify algebraic expressions • 7.5B formulate problem situations when given a simple equation and formulate an equation when given a problem situation • 7.5A use concrete and pictorial models to solve equations and use symbols to record the actions • 8.7D locate and name points on a coordinate plane using ordered pairs of rational numbers • 7.11A select and use an appropriate representation for presenting and displaying relationships among collected data, including line plot, line graph, bar graph, stem and leaf plot, circle graph, and Venn diagrams, and justify the selection • 8.12C select and use an appropriate representation for presenting and displaying relationships among collected data, including line plots, line graphs, stem and leaf plots, circle graphs, bar graphs, box and whisker plots, histograms, and Venn diagrams, with and without the use of technology

Grade 7

New TEKS

- 7.2A extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of rational numbers
- 7.4C determine the constant of proportionality (k= y/x) within mathematical and real-world problems
- 7.6B select and use different simulations to represent simple and compound events with and without technology
- 7.6H solve problems using qualitative and quantitative predictions and comparisons from simple experiments
- 7.12C compare two populations based on data in random samples from these populations, including informal comparative inferences about differences between the two populations.

Moved TEKS

- 6.6C describe the relationship between radius, diameter, and circumference of a circle
- 6.9A construct sample spaces using lists and tree diagrams
- 6.9B find the probabilities of a simple event and its complement and describe the relationship between the two
- 8.11B use theoretical probabilities and experimental results to make predictions and decisions
- 8.13A evaluate methods of sampling to determine validity of an inference made from a set of data
- 8.4A generate a different representation of data given another representation of data (such as a table, graph, equation, or verbal description)
- 8.8B connect models of prisms, cylinders, pyramids, spheres, and cones to formulas for volume of these objects
- 8.8C estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume
- 8.8C estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume

Grade 8

New TEKS

- 8.2A extend previous knowledge of sets and subsets using a visual representation to describe relationships between sets of real numbers
- 8.10B differentiate between transformations that preserve congruence and those that do not
- 8.11B determine the mean absolute deviation and use this quantity as a measure of the average distance data are from the mean using a data set of no more than 10 data points

Moved TEKS

- 7.4B graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, and scaling
- A.6A develop the concept of slope as rate of change and determine slopes from graphs, tables, and algebraic representations
- A.6B interpret the meaning of slope and intercepts in situations using data, symbolic representations, or graphs
- A.5A determine whether or not given situations can be represented by linear functions
- A.6G relate direct variation to linear functions and solve problems involving proportional change
- A.1D represent relationships among quantities using concrete models, tables, graphs, diagrams, verbal descriptions, equations, and inequalities
- G.7C derive and use formulas involving length, slope, and midpoint
- A.7A analyze situations involving linear functions and formulate linear equations or inequalities to solve problems
- G.5B use numeric and geometric patterns to make generalizations about geometric properties, including properties of polygons, ratios in similar figures and solids, and angle relationships in polygons…
- G.9A formulate and test conjectures about the properties of parallel and perpendicular lines based on explorations and concrete models
- G.9B formulate and test conjectures about the properties and attributes of polygons and their component parts based on explorations and concrete models
- G.11C develop, apply, and justify triangle similarity relationships…
- A.8C interpret and determine the reasonableness of solutions to systems of linear equations

Algebra 1

New TEKS	• A.2G write an equation of a line that is parallel or perpendicular to the X or Y axis and determine whether the slope of the line is zero or undefined • A.4B compare and contrast association and causation in real-world problems A.8B write, using technology, quadratic functions that provide a reasonable fit to data to estimate solutions and make predictions for real-world problems • A.10C determine the quotient of a polynomial of degree one and polynomial of degree two when divided by a polynomial of degree one and polynomial of degree two when the degree of the divisor does not exceed the degree of the dividend • A.10F decide if a binomial can be written as the difference of two squares and, if possible, use the structure of a difference of two squares to rewrite the binomial • A.11A simplify numerical radical expressions involving square roots
Moved TEKS	• 8.5B find and evaluate an algebraic expression to determine any term in an arithmetic sequence (with a constant rate of change) • G.7B use slopes and equations of lines to investigate geometric relationships, including parallel lines, perpendicular lines, and special segments of triangles and other polygons • 2 A.3B use algebraic methods, graphs, tables, or matrices, to solve systems of equations or inequalities • 2A.7A use characteristics of the quadratic parent function to sketch the related graphs and connect between the $y = ax2 + bx + c$ and the $y = a (x – h)2 + k$ symbolic representations of quadratic functions • P.3C use regression to determine the appropriateness of a linear function to model real-life data (including using technology to determine the correlation coefficient) • 2 A.7B use the parent function to investigate, describe, and predict the effects of changes in a, h, and k on the graphs of $y = a (x – h)2 + k$ form of a function in applied and purely mathematical situations • 2A.11C determine the reasonable domain and range values of exponential and logarithmic functions, as well as interpret and determine the reasonableness of solutions to exponential and • logarithmic equations and inequalities • 2A.11B use the parent functions to investigate, describe, and predict the effects of parameter changes on the graphs of exponential and logarithmic functions, describe limitations on the domains and ranges, and examine asymptotic behavior • 2A.11F analyze a situation modeled by an exponential function, formulate an equation or inequality, and solve the problem • P.4B use arithmetic, geometric and other sequences and series to solve real-life problems

Geometry

New TEKS	- G.2A determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one and two-dimensional coordinate systems, including finding the midpoint - G.3B determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane - G.3D identify and distinguish between reflectional and rotational symmetry in a plane figure - G.5D verify the Triangle Inequality theorem using constructions and apply the theorem to solve problems - G.12D describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle - G.13A develop strategies to use permutations and combinations to solve contextual problems - G.13D apply conditional probability in contextual problems - G.13E apply independence in contextual problems
Moved TEKS	8.11A find the probabilities of dependent and independent events 2A.5B sketch graphs of conic sections to relate simple parameter changes in the equation to corresponding changes in the graph

Algebra 2

New TEKS	2A.2D use the composition of two functions, including the necessary restrictions on the domain, to determine if the functions are inverses of each other 2A.4G identify extraneous solutions of square root equations 2A.6B solve cube root equations that have real roots 2A.6D formulate absolute value linear equations 2A.6E solve absolute value linear equations 2A.6F solve absolute value linear inequalities 2A.7B add, subtract, and multiply polynomials 2A.7C determine the quotient of a polynomial of degree three and of degree four when divided by a polynomial of degree one and of degree two 2A.7F determine the sum, difference, product, and quotient of rational expressions with integral exponents of degree one and of degree two 2A.7G rewrite radical expressions that contain variables to equivalent forms 2A.7H solve equations involving rational exponents
Moved TEKS	- P.1A (A) describe parent functions symbolically and graphically, including $f(x) = x^n$, $f(x) = \ln x$, $f(x) = \log_a x$, $f(x) = 1/x$, $f(x) = e^x$, $f(x) = |x|$, $f(x) = a^x$, $f(x) = \sin x$, $f(x) = \arcsin x$, etc. - P.2A apply basic transformations, including $a \bullet f(x)$, $f(x) + d$, $f(x - c)$, $f(b \bullet x)$, and compositions with absolute value functions, including $|f(x)|$, and $f(|x|)$, to the parent functions - P.3B use functions such as logarithmic, exponential, trigonometric, polynomial, etc. to model real-life data - P.3C use regression to determine the appropriateness of a linear function to model real-life data (including using technology to determine the correlation coefficient)