Scope and Sequence

6-8 Alignment, Number, Operation

Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
(6.1A) compare and order non-negative rational numbers	(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
(6.1B) generate equivalent forms of rational numbers including whole numbers, fractions, and decimals		
(6.1C) use integers to represent real-life situations		
(6.1D) write prime factorizations using exponents		
(6.1E) identify factors of a positive integer, common factors, and the greatest common factor of a set of positive integers		
(6.1F) identify multiples of a positive integer and common multiples and the least common multiple of a set of positive integers		
	(7.1B) convert between fractions, decimals, whole numbers, and percents mentally, on paper, or with a calculator	
	(7.1C) represent squares and square roots using geometric models	
		(8.1B) select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships

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Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
		(8.1C) approximate (mentally and with calculators) the value of irrational numbers as they arise from problem situations (such as π, $\sqrt{2}$)
		(8.1D) express numbers in scientific notation, including negative exponents, in appropriate problem situations
(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	(7.2B) use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals	
(6.2C) use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates	(7.2A) represent multiplication and division situations involving fractions and decimals with models, including concrete objects, pictures, words, and numbers	
	(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	
	(7.2D) use division to find unit rates and	

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Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
	ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio	
(6.2D) estimate and round to approximate reasonable results and to solve problems where exact answers are not required	(7.2E) simplify numerical expressions involving order of operations and exponents	
(6.2E) use order of operations to simplify whole number expressions (without exponents) in problem solving situations	(7.2F) select and use appropriate operations to solve problems and justify the selections	(8.2A) select appropriate operations to solve problems involving rational numbers and justify the selections
		(8.2B) use appropriate operations to solve problems involving rational numbers in problem situations
	(7.2G) determine the reasonableness of a solution to a problem	(8.2C) evaluate a solution for reasonableness
		(8.2D) use multiplication by a constant factor (unit rate) to represent proportional relationships

Scope and Sequence

Patterns, Relationships

Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
	(7.3A) estimate and find solutions to application problems involving percent	(8.3A) compare and contrast proportional and non-proportional linear relationships
	(7.3B) estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units	(8.3B) estimate and find solutions to application problems involving percent and other proportional relationships such as similarity and rate
(6.4A) use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area	(7.4B) graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, and scaling	(8.4A) generate a different representation of data given another representation of data (such as a table, graph, equation, or verbal description)
(6.4B) use tables of data to generate formulas representing relationships involving perimeter, area, volume of a rectangular prism, etc	(7.4A) generate formulas involving unit conversions, perimeter, area, circumference, volume, and scaling	
(6.3A) use ratios to describe proportional situations		
(6.3B) represent ratios and percents with concrete models, fractions, and decimals		
(6.3C) use ratios to make predictions in proportional situations		
(6.5A) formulate equations from problem situations described by linear relationships	(7.5B) formulate problem situations when given a simple equation and formulate an equation when given a problem situation	(8.5A) predict, find, and justify solutions to application problems using appropriate tables, graphs, and algebraic equations
	(7.4C) use words and symbols to describe the relationship between the terms in an arithmetic sequence (with a constant rate of change) and their positions in the sequence	(8.5B) find and evaluate an algebraic expression to determine any term in an arithmetic sequence (with a constant rate of change).
	(7.5A) use concrete and pictorial models to solve equations and use symbols to record the actions	

Scope and Sequence

Geometry

Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
(6.7A) locate and name points on a coordinate plane using ordered pairs of non-negative rational numbers	(7.7A) locate and name points on a coordinate plane using ordered pairs of integers	(8.7D) locate and name points on a coordinate plane using ordered pairs of rational numbers
	(7.7B) graph reflections across the horizontal or vertical axis and graph translations on a coordinate plane	(8.6B) graph dilations, reflections, and translations on a coordinate plane
(6.6A) use angle measurements to classify angles as acute, obtuse, or right	(7.6A) use angle measurements to classify pairs of angles as complementary or supplementary	
(6.6B) identify relationships involving angles in triangles and quadrilaterals	(7.6B) use properties to classify triangles and quadrilaterals	
(6.6C) describe the relationship between radius, diameter, and circumference of a circle		
		(8.6A) generate similar figures using dilations including enlargements and reductions
	(7.6C) use properties to classify three-dimensional figures, including pyramids, cones, prisms, and cylinders	
	(7.6D) use critical attributes to define similarity	
	(7.8A) sketch three-dimensional figures when given the top, side, and front views	(8.7A) draw three-dimensional figures from different perspectives
	(7.8B) make a net (two-dimensional model) of the surface area of a three-dimensional figure	
	(7.8C) use geometric concepts and properties to solve problems in fields such as art and architecture	(8.7B) use geometric concepts and properties to solve problems in fields such as art and architecture
		(8.7C) use pictures or models to demonstrate the Pythagorean Theorem

Scope and Sequence

Measurement

Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
(6.8B) select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter), area, time, temperature, volume, and weight	(7.9A) estimate measurements and solve application problems involving length (including perimeter and circumference) and area of polygons and other shapes	(8.8C) estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume
(6.8D) convert measures within the same measurement system (customary and metric) based on relationships between units		
	(7.9B) connect models for volume of prisms (triangular and rectangular) and cylinders to formulas of prisms (triangular and rectangular) and cylinders	(8.8B) connect models of prisms, cylinders, pyramids, spheres, and cones to formulas for volume of these objects
	(7.9C) estimate measurements and solve application problems involving volume of prisms (rectangular and triangular) and cylinders	(8.8C) estimate measurements and use formulas to solve application problems involving lateral and total surface area and volume
(6.8A) estimate measurements (including circumference) and evaluate reasonableness of results		
(6.8C) measure angles		
		(8.9A) use the Pythagorean Theorem to solve real-life problems
		(8.9B) use proportional relationships in similar two-dimensional figures or similar three-dimensional figures to find missing measurements
		(8.10A) describe the resulting effects on perimeter and area when dimensions of a shape are changed proportionally
		(8.10B) describe the resulting effect on volume when dimensions of a solid are changed proportionally

Scope and Sequence

Probability and Statistics

Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
(6.10B) identify mean (using concrete objects and pictorial models), median, mode, and range of a set of data	(7.12A) describe a set of data using mean, median, mode, and range	
	(7.12B) choose among mean, median, mode, or range to describe a set of data and justify the choice for a particular situation	(8.12A) select the appropriate measure of central tendency or range to describe a set of data and justify the choice for a particular situation
(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	(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
(6.9A) construct sample spaces using lists and tree diagrams	(7.10A) construct sample spaces for simple or composite experiments	
(6.9B) find the probabilities of a simple event and its complement and describe the relationship between the two	(7.10B) find the probability of independent events	(8.11A) find the probabilities of dependent and independent events
(6.10C) sketch circle graphs to display data		
(6.10D) solve problems by collecting, organizing, displaying, and interpreting data.	(7.11B) make inferences and convincing arguments based on an analysis of given or collected data	(8.12B) draw conclusions and make predictions by analyzing trends in scatterplots
		(8.11B) use theoretical probabilities and experimental results to make predictions and decisions
		(8.11C) select and use different models to simulate an event
		(8.13A) evaluate methods of sampling to determine validity of an inference made from a set of data
		(8.13B) recognize misuses of graphical or numerical information and evaluate predictions and conclusions based on data analysis

Scope and Sequence

Underlying Processes and Mathematical Tools

Grade 6 TEKS	Grade 7 TEKS	Grade 8 TEKS
(6.11A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics	(7.13A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics	(8.14A) identify and apply mathematics to everyday experiences, to activities in and outside of school, with other disciplines, and with other mathematical topics
(6.11B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness	(7.13B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness	(8.14B) use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness
(6.11C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem	(7.13C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem	(8.14C) select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem
(6.11D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems	(7.13D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems	(8.14D) select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems
(6.12A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models	(7.14A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models	(8.15A) communicate mathematical ideas using language, efficient tools, appropriate units, and graphical, numerical, physical, or algebraic mathematical models
(6.12B) evaluate the effectiveness of different representations to communicate ideas	(7.14B) evaluate the effectiveness of different representations to communicate ideas	(8.15B) evaluate the effectiveness of different representations to communicate ideas
(6.13B) validate his/her conclusions using mathematical properties and relationships	(7.15B) validate his/her conclusions using mathematical properties and	(8.16B) validate his/her conclusions using mathematical properties and relationships

	relationships	
(6.13A) make conjectures from patterns or sets of examples and non-examples	(7.15A) make conjectures from patterns or sets of examples and non-examples	(8.16A) make conjectures from patterns or sets of examples and non-examples