

Texas Essential Knowledge & Skills Overview Grades 6 - 7 - 8

	Grade 6	Grade 7	Grade 8
Number, Operations, and Quantitative Reasoning	<p>Fractions, Decimals, Integers</p> <ul style="list-style-type: none"> compare and order non-negative rationals generate equivalent forms of rationals use integers to represent situations write prime factorizations using exponents identify factors and multiples <p>Solving Problems with Addition / Subtraction/Multiplication/Division</p> <ul style="list-style-type: none"> model addition and subtraction situations involving fractions add and subtract fractions and decimals solve ratio and rate problems with multiplication and division estimate solutions 	<p>Rationals</p> <ul style="list-style-type: none"> compare and order integers and positive rationals convert between fractions, decimals, whole numbers and percents represent squares and square roots with models <p>Solving Problems with Addition Subtraction/Multiplication/Division</p> <ul style="list-style-type: none"> represent multiplication and division situations involving fractions and decimals add, subtract, multiply, and divide to solve problems involving fractions and decimals add, subtract, multiply and divide integers and connect to algorithms find unit rates and ratios in proportional relationships use order of operations and exponents select appropriate operations and justify selection determine reasonableness of solutions 	<p>Reals</p> <ul style="list-style-type: none"> compare and order rationals use appropriate form of a rational to solve real-life problems approximate irrational numbers express numbers in scientific notation <p>Solving Problems with Addition Subtraction/Multiplication/Division</p> <ul style="list-style-type: none"> select and use appropriate operations and justify selection add, subtract, multiply, and divide rationals to solve problems evaluate solutions for reasonableness use unit rate to represent proportional relationships
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Patterns, Relationships, and Algebraic Thinking	<p>Proportional Reasoning</p> <ul style="list-style-type: none"> • use ratios to describe proportional situations • represent ratios and percents with models, fractions, and decimals • use ratios to make predictions <p>Expressing Relationships and Making Predictions</p> <ul style="list-style-type: none"> • use tables and symbols to represent proportional and other relationships • generate formulas (perimeter, area, volume from data) <p>Equations</p> <ul style="list-style-type: none"> • formulate equations from problem situations 	<p>Proportional Reasoning</p> <ul style="list-style-type: none"> • estimate and solve application problems involving percent • estimate and solve application problems involving proportional reasoning <p>Expressing Relationships and Making Predictions</p> <ul style="list-style-type: none"> • generate formulas involving conversions, perimeter, area, circumference, volume, scaling • graph data to demonstrate relationships • describe relationship between terms in a sequence and their position <p>Equations</p> <ul style="list-style-type: none"> • solve equations with models and use symbols to record • formulate problems from equations 	<p>Proportional Reasoning</p> <ul style="list-style-type: none"> • compare and contrast proportional and non-proportional relationships • estimate and solve applications of percents and proportional relationships <p>Expressing Relationships and Making Predictions</p> <ul style="list-style-type: none"> • generate different models for the same data <p>Equations</p> <ul style="list-style-type: none"> • estimate, find, and justify solutions to application problems • use and algebraic expression to find any term in a sequence
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Measurement	<p>Measuring</p> <ul style="list-style-type: none"> • measure angles <p>Solving Problems Using Measurement</p> <ul style="list-style-type: none"> • estimate measures and evaluate reasonableness • select and use appropriate units, tools, and formulates to solve problems • convert between measures in the same system 	<p>Solving Problems Using Measurement</p> <ul style="list-style-type: none"> • estimate measurements and solve problems with length, area, and volume 	<p>Solving Problems Using Measurement</p> <ul style="list-style-type: none"> • find surface area, volume using concrete models and nets • connect models to formulas • estimate and use formulas for surface areas and volume • use Pythagorean Theorem • use proportional relationships to find missing measures <p>Proportional Reasoning in Measurement</p> <ul style="list-style-type: none"> • describe effect on perimeter and area when dimensions are changed • describe effect on volume when dimensions are changed
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Geometry & Spatial Reasoning	<p>Geometric Language</p> <ul style="list-style-type: none"> • classify angles • identify angle relationships in triangles and quadrilaterals • describe radius, diameter, and circumference relationships <p>Graphing</p> <ul style="list-style-type: none"> • locate and name points using ordered pairs of non-negative rationals 	<p>Geometric Language</p> <ul style="list-style-type: none"> • classify angles as complementary and supplementary • classify shapes • classify solids • define similarity <p>Graphing</p> <ul style="list-style-type: none"> • locate and name points using ordered pairs of integers on a coordinate plane • graph translations <p>Geometric Models</p> <ul style="list-style-type: none"> • sketch solids from all views • make nets of solids • use geometric concepts and properties to solve problems 	<p>Geometric Language</p> <ul style="list-style-type: none"> • use dilations to generate similar shapes • graph dilations, reflections, and translations • locate and name points using ordered pairs of rationals on a coordinate plane <p>Geometric Models</p> <ul style="list-style-type: none"> • draw solids from different perspectives • use geometric concepts and properties to solve problems • demonstrate Pythagorean Theorem
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Probability & Statistics	<p>Displaying & Interpreting Data</p> <ul style="list-style-type: none"> • draw and compare different graphs of the same data • use median, mode, and range • sketch circle graphs • collect, organize, display and interpret data to solve problems <p>Probability</p> <ul style="list-style-type: none"> • construct sample spaces • find probability of a simple event and its complement 	<p>Displaying & Interpreting Data</p> <ul style="list-style-type: none"> • select, use, and justify appropriate representations of collected data • make inferences and convincing arguments based on data • describe data with mean, median, mode, and range • use and justify appropriate measures to describe a set of data <p>Probability</p> <ul style="list-style-type: none"> • construct sample spaces for compound events • find probability of compound events through experimentation 	<p>Displaying & Interpreting Data</p> <ul style="list-style-type: none"> • select appropriate measures of central tendency to describe data • make predictions from scatterplots • construct circle graphs, bar graphs, and histograms • evaluate methods of sampling • recognize misuses of data analysis and evaluate predictions <p>Probability</p> <ul style="list-style-type: none"> • find probability of compound events • use probability to make predictions • use models to simulate an event