

Seventh Grade Mathematics

Module Correlation Chart-7th Grade

Texas Essential Knowledge and Skills (TEKS)

- (1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 7 are using proportional relationships in number, geometry, measurement, and probability; applying addition, subtraction, multiplication, and division of decimals, fractions, and integers; and using statistical measures to describe data.
- (2) Throughout mathematics in Grades 6-8, students build a foundation of basic understandings in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; measurement; and probability and statistics. Students use concepts, algorithms, and properties of rational numbers to explore mathematical relationships and to describe increasingly complex situations. Students use algebraic thinking to describe how a change in one quantity in a relationship results in a change in the other; and they connect verbal, numeric, graphic, and symbolic representations of relationships. Students use geometric properties and relationships, as well as spatial reasoning, to model and analyze situations and solve problems. Students communicate information about objects or situations by quantifying attributes, generalize procedures from measurement experiences, and use the procedures to solve problems. Students use appropriate statistics, representations of data, reasoning, and concepts of probability to draw conclusions, evaluate arguments, and make recommendations.
- (3) Problem solving, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Grades 6-8, students use these processes together with technology (at least four-function calculators for whole numbers, decimals, and fractions) and other mathematical tools such as manipulative materials to develop conceptual understanding and solve problems as they do mathematics.

Texas Essential Knowledge and Skills		Modules
(1)	Number, Operation, and Quantitative Reasoning. The student represents and uses numbers in a variety of equivalent forms. The student is expected to:	
	(A) compare and order integers and positive rational numbers;	7
	(B) convert between fractions, decimals, whole numbers, and percents mentally, on paper, or with a calculator; and	1, 4, 5
	(C) represent squares and square roots using geometric models	7
(2)	Number, Operation, and Quantitative Reasoning. The student adds, subtracts, multiplies, or divides to solve problems and justify solutions. The student is expected to:	
	(A) represent multiplication and division situations involving fractions and decimals with concrete models, pictures, words, and numbers;	1, 4
	(B) use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals;	1, 4

(C)	use models to add, subtract, multiply, and divide integers, and connect the actions to algorithms;	7
(D)	use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio;	5
(E)	simplify numerical expressions involving order of operations and exponents;	7
(F)	select and use appropriate operations to solve problems and justify the selections; and	1 – 10
(G)	determine the reasonableness of a solution to a problem.	1 – 10
(3)	Patterns, Relationships, and Algebraic Thinking. The student solves problems involving proportional relationships. The student is expected to:	
(A)	estimate and find solutions to application problems involving percents; and	5 – 7
(B)	estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units.	5, 6
(4)	Patterns, Relationships, and Algebraic Thinking. The student represents a relationship in numerical, geometric, verbal, and symbolic form. The student is expected to:	
(A)	generate formulas involving conversions, perimeter, area, circumference, volume, and scaling;	6
(B)	graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area, circumference, volume, and scaling; and	6
(C)	describe the relationship between the terms in a sequence and their positions in the sequence.	3
(5)	Patterns, Relationships, and Algebraic Thinking. The student uses equations to solve problems. The student is expected to:	
(A)	use concrete models to solve equations and use symbols to record the actions; and	8
(B)	formulate a possible problem situation when given a simple equation.	8
(6)	Geometry and Spatial Reasoning. The student compares and classifies shapes and solids using geometric vocabulary and properties. The student is expected to:	
(A)	use angle measurements to classify pairs of angles as complementary or supplementary;	9
(B)	use properties to classify shapes including triangles, quadrilaterals, pentagons, and circles;	9
(C)	use properties to classify solids, including pyramids, cones, prisms, and cylinders; and	6, 9
(D)	use critical attributes to define similarity.	6
(7)	Geometry and Spatial Reasoning. The student uses coordinate geometry to describe location on a plane. The student is expected to:	
(A)	locate and name points on a coordinate plane using ordered pairs of integers; and	7
(B)	graph translations on a coordinate plane.	7
(8)	Geometry and Spatial Reasoning. The student uses geometry to model and describe the physical world. The student is expected to:	
(A)	sketch a solid when given the top, side, and front views;	9

(B)	make a net (two-dimensional model) of the surface area of a solid; and	9
(C)	use geometric concepts and properties to solve problems in fields such as art and architecture.	9
(9)	Measurement. The student solves application problems involving estimation and measurement. The student is expected to:	
(A)	estimate measurements and solve application problems involving length (including perimeter and circumference), area, and volume.	6
(10)	Probability and Statistics. The student recognizes that a physical or mathematical model can be used to describe the probability of real-life events. The student is expected to:	
(A)	construct sample spaces for compound events (dependent and independent); and	10
(B)	find the approximate probability of a compound event through experimentation.	10
(11)	Probability and Statistics. The student understands that the way a set of data is displayed influences its interpretation. The student is expected to:	
(A)	select and use an appropriate representation for presenting collected data and justify the selection; and	2
(B)	make inferences and convincing arguments based on an analysis of given or collected data.	2
(12)	Probability and Statistics. The student uses measures of central tendency and range to describe a set of data. The student is expected to:	
(A)	describe a set of data using mean, median, mode, and range; and	2
(B)	choose among mean, median, mode, or range to describe a set of data and justify the choice for a particular situation.	2
(13)	Underlying Processes and Mathematical Tools. The student applies Grade 7 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.	
(A)	identify and <u>apply mathematics to everyday experiences</u> , to activities in and outside of school, with other mathematical topics;	1 – 10
(B)	use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	1 – 10
(C)	select or <u>develop an appropriate problem-solving strategy</u> 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 simple problem, or working backwards to solve a problem; and	1 – 10
(D)	select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems.	1 – 10

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