

MATH Connections Correlation to Connecticut Standards

Correlation Key:

"X" Coverage = Secondary concept of the activity or problem. Students gain a basic understanding or introduction of the concept.

"XX" In-depth coverage = Primary concept that is the focus of the activity or problem. Students gain thorough understanding of the concept.

	MATH Connections 1A				MATH Connections 1B				MATH Connections 2A			MATH Connections 2B			MATH Connections 3A				MATH Connections 3B			
	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8

CONTENT STANDARD 1: Number Sense

Students will use numbers to count, measure, compare, order, scale, locate and label, and use a variety of numerical representations to present, interpret, communicate and connect various kinds of numerical information.

• use real-life experiences, physical materials and technology to construct meanings for rational and irrational numbers, including integers, percents and roots	X		XX		X				X	X												XX		
• use number sense and the properties of various subsets of real numbers to solve real-world problems	X		XX			XX			X													XX	XX	
• develop and use an intuitive sense of the magnitude of numbers (including very large and very small numbers) and relate them to place value and exponential forms	X	XX	X		X											XX						XX		
• select an appropriate form to represent and use numerical data (integer, fraction, decimal, ratio, percent, exponential, scientific notation, irrational, complex) as they arise from real-world situations involving magnitude, order, measures, labels, locations and scales.	XX	XX	XX	X	X	X	X	X	XX	X	XX	XX	X	X	X	XX	X	X	XX	X	XX	XX		

CONTENT STANDARD 2: Operations

Students will add, subtract, multiply and divide with whole numbers, fractions, decimals and integers and develop strategies for selecting the appropriate computational and operational methods for solving problems.

• use arithmetic operations to solve problems encountered in everyday consumer situations	X	XX	X			X	XX		X	X	X				X								
• apply and explain procedures for performing calculations with whole numbers, decimals, fractions and integers	XX				X		XX		XX	X		X										XX	
• use appropriate methods for computing, including mental math, estimation, paper-and-pencil and calculator methods	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
• use field properties and the relationship between operations and their inverses to justify mathematical procedures		XX							X					XX							XX	XX	
• use absolute value, powers and roots; explore and use negative exponents on integers.	XX	XX			X	X			X	X		X			XX	XX			X				

Correlation Key: "X" Coverage = Secondary concept of the activity or problem. Students gain a basic understanding or introduction of the concept. "XX" In-depth coverage = Primary concept that is the focus of the activity or problem. Students gain thorough understanding of the concept.	MATH Connections 1A				MATH Connections 1B				MATH Connections 2A			MATH Connections 2B			MATH Connections 3A				MATH Connections 3B			
	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8
CONTENT STANDARD 3: Estimation and Approximation Students will make estimates and approximations, and judge the reasonableness of results.																						
• assess the reasonableness of answers to problems arrived at using pencil-and-paper techniques, mental math, formulas, calculators or computers	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
• develop, use and apply a variety of estimation strategies in problem situations	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
• make reasonable estimates of the values of formulas, functions and roots		XX	XX	XX	XX	XX	XX		XX		X	X	X		XX	XX	XX	XX	XX		XX	
• recognize the limitations of estimation and assess the amount of error resulting from estimation.	X			XX	XX						X	XX					XX				XX	
CONTENT STANDARD 4: Ratios, Proportions and Percents Students will use ratios, proportions and percents to represent relationships between quantities and measures and solve problems involving ratios, proportions and percents.																						
• understand and explain the need for proportions and percents	X		XX					XX	XX	XX	XX	XX			XX			XX				
• use ratios, proportions and percents to solve real-world problems	X		XX					XX	XX	XX	XX	XX			XX			XX				
• use dimensional analysis and equivalent rates to solve problems		XX				XX						X										
• describe direct and indirect variation and apply them to numerical, geometric and algebraic models and related problems									XX	XX												
• describe trigonometric ratios and apply them to measuring triangles.											XX	X	X					XX				
CONTENT STANDARD 5: Measurement Students will make and use measurements in both customary and metric units to approximate, measure and compute length, area, volume, mass, temperature, angle and time.																						
• extend, apply and formalize understandings of measurement, including strategies for determining perimeters, areas and volumes, and the dimensionality relationships among them									XX	XX	X	XX	XX		X							
• describe and apply the effect of a change in length on the area and volume of an object									XX	XX		XX	XX		X							
• choose appropriate tools and techniques to measure quantities to specified degrees of precision and accuracy		XX							XX		X	XX	XX									
• use techniques of algebra, geometry and trigonometry to measure quantities indirectly	X	XX	X	X	XX				XX	XX	XX	XX	XX		X	X	X		X		XX	
• use and create scales and calibrations to solve problems involving measurement.			XX	X	X	XX			XX	XX	XX	XX	XX					XX				

Correlation Key: "X" Coverage = Secondary concept of the activity or problem. Students gain a basic understanding or introduction of the concept. "XX" In-depth coverage = Primary concept that is the focus of the activity or problem. Students gain thorough understanding of the concept.	MATH Connections 1A				MATH Connections 1B				MATH Connections 2A			MATH Connections 2B			MATH Connections 3A				MATH Connections 3B			
	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8

CONTENT STANDARD 6: Spatial Relationships and Geometry																						
Students will analyze and use spatial relationships and basic concepts of geometry to construct, draw, describe and compare geometric models and their transformations, and use geometric relationships and patterns to solve problems.																						
• use transformations, coordinates and vectors and appropriate computer software to explore and develop an understanding of Euclidean geometry																						
• deduce properties of, and relationships among, figures from given assumptions										XX	XX		XX	XX							XX	
• develop an understanding of an axiomatic system through geometric investigations, making conjectures, formulating arguments and constructing proofs										X			X	XX							XX	XX
• understand and analyze the geometry of three-dimensional shapes and their cross-sections														XX								
• solve real-world and mathematical problems using geometric models										XX	XX		XX	XX		X					XX	
• interpret algebraic equations and inequalities geometrically, and describe geometric objects algebraically.																					XX	XX

CONTENT STANDARD 7: Probability and Statistics																						
Students will use basic concepts of probability and statistics to collect, organize, display and analyze data, simulate events and test hypotheses.																						
• estimate probabilities, predict outcomes and test hypotheses using statistical techniques																					XX	
• design a sampling experiment, interpret the data, and recognize the role of sampling in statistical claims																					XX	
• use the law of large numbers to interpret data from a sample of a particular size																					XX	
• select appropriate measures of central tendency, dispersion and correlation	XX				XX	XX																
• design and conduct a statistical experiment and interpret its results																					XX	
• draw conclusions from data and identify fallacious arguments or claims	XX																				XX	
• use scatterplots and curve-fitting techniques to interpolate and predict from data																						
• use relative frequency and probability to represent and solve problems involving uncertainty																					XX	
• use simulations to estimate probabilities.																					XX	

Correlation Key: "X" Coverage = Secondary concept of the activity or problem. Students gain a basic understanding or introduction of the concept. "XX" In-depth coverage = Primary concept that is the focus of the activity or problem. Students gain thorough understanding of the concept.	MATH Connections 1A				MATH Connections 1B				MATH Connections 2A			MATH Connections 2B			MATH Connections 3A				MATH Connections 3B			
	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8
CONTENT STANDARD 8: Patterns Students will discover, analyze, describe, extend and create patterns and use patterns to describe mathematical and other real-world phenomena.																						
• identify, describe and generalize numerical and spatial patterns	XX	XX	XX	XX	XX	XX	XX		XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
• identify, describe and generalize patterns from data and identify and analyze patterns of change	XX	XX	XX	XX	XX	XX		XX			XX	XX			XX	XX	XX	XX				
• predict and describe patterns produced by iterations, approximations, limits and fractals.		XX				XX						XX										XX
CONTENT STANDARD 9: Algebra and Functions Students will use algebraic skills and concepts, including functions, to describe real-world phenomena symbolically and graphically, and to model quantitative change.																						
• model and solve problems that involve varying quantities with variables, expressions, equations, inequalities, absolute values, vectors and matrices		XX	XX	XX	XX	XX	XX		XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	
• model real-world phenomena using polynomial, rational, trigonometric, logarithmic and exponential functions, noting restricted domains						XX			XX						XX	XX	XX	XX	XX	XX	XX	
• analyze the effect of parametric changes on the graphs of functions			XX								XX				XX	XX	XX	XX				
• translate among and use tabular, symbolic and graphical representations of equations, inequalities and functions		XX	XX	XX	XX	XX			XX		XX	XX	XX		XX	XX	XX		XX			
• develop, explain, use and analyze procedures for operating on algebraic expressions and matrices		XX							XX					XX						XX		
• solve equations and inequalities using graphing calculators and computers as well as appropriate paper-and-pencil techniques.		XX	XX	XX	XX	XX	X		XX	X	XX	X	XX	XX	XX	XX	XX	X	XX	XX	XX	
CONTENT STANDARD 10: Discrete Mathematics Students will use the concepts and processes of discrete mathematics to analyze and model a variety of real-world situations that involve recurring relationships, sequences, networks, combinations and permutations.																						
• represent problem situations using finite graphs, matrices, sequences and recurrence relations						XX								XX					XX		XX	
• develop, analyze, describe, invent and test algorithms		XX			XX									XX				XX	XX			
• define and use permutations, combinations, mathematical induction and recursion to solve combinatorial and algorithmic problems						XX	XX											XX		XX		
• understand and use appropriate strategies to solve optimization problems.		X			X							X							XX			