

Math Major Concepts in 6th-8th Grades

This document provides a visual representation of the major concepts (topics) that are taught from sixth grade to eighth grade in Math. The concepts (topics) are arranged according to the North Carolina Standard Course of Study strands (expressions and equations, functions, geometry, ratios and proportional relationships, statistics and probability, and the number system). A gray box indicates that the particular concept (topic) is not taught in during that school year.

Sixth Grade Math Major Concepts	Seventh Grade Math Major Concepts	Eighth Grade Math Major Concepts
Expressions and Equations	Expressions and Equations	Expressions and Equations
Write and Evaluate Expressions	Linear Expressions	Exponential Expressions
Write Expressions with Variables		
Parts of an Expression		
Equivalent Expressions		
Solve Equations and Inequalities	Symbolize and Solve Inequalities	Solutions to Linear Equations
Symbolize Problem Situations		Systems of Equations
Inequalities		
Number Sentences		
Quantitative Relationships		
	Multi-Step Real World Problems	
		Square and Cube Roots
		Scientific Notation
		Graphing Proportional and Linear Relationships
Functions	Functions	Functions
		Understanding Functions
		Compare Functions
		Linear vs. Nonlinear Functions
		Linear Relationships
		Describe Functions
Geometry	Geometry	Geometry
Area	Area, Surface Area, and Volume	
Volume		Volume

Surface Area		
Coordinate Geometry	Scale Drawings	Similarity Similar Triangles Congruence Object Transformations Effect of Transformations
	Two-Dimensional Shapes	
	Three-Dimensional Figures	
	Angles	Angles and Lines
	Circles	
		Pythagorean Theorem
		Distance
Ratios and Proportional Relationships	Ratios and Proportional Relationships	Ratios and Proportional Relationships
Ratios and Ratio Language	Ratios and Proportions	
Ratios and Units of Measurement	Proportional Relationships	
Understanding Unit Rates	Unit Rate and Constant of Proportionality	
Solve Unit Rate Problems		
Percents	Percents	
Statistics and Probability	Statistics and Probability	Statistics and Probability
Statistical Questions		
Data Distribution		Scatter Plots
Measures of Center and Variability		
Graphing Data		Best-Fit Linear Models Two-Way Tables
Interpreting Data		
	Random Sampling	
	Sampling Analysis	
	Comparing Statistics—Central Tendency and Variability	
	Understanding Probability	

	Approximate Probability	
	Theoretical Probability	
	Experimental Probability	
	Compound Events	
The Number System	The Number System	The Number System
Division of Fractions	Properties of Addition and Subtraction	Real Numbers
Division of Whole Numbers	Properties of Multiplication and Division	
Arithmetic with Decimals	Compute with Rational Numbers	
Positive and Negative Numbers	Convert Fractions to Decimals	
Factors and Multiples		
Opposites		
Number Lines		
Comparing Rational Quantities		Rational Approximations
Absolute Value		
Coordinate Planes		
Distance on Coordinate Plane		