

Critical Area Activity

Critical Area	Course	Grade Level Choice	Comments
Representing, relating, and operating on whole numbers, initially with sets of objects	Kindergarten		
Describing shapes and space	Kindergarten		
Developing understanding of addition, subtraction, and strategies for addition and subtraction within 20	First Grade		
Developing understanding of whole number relationships and place value, including grouping in ten and ones	First Grade		
Developing understanding of linear measurement and measuring lengths as iterating length units	First Grade		
Reasoning about attributes of, and composing and decomposing geometric shapes	First Grade		
Extending understanding of base-ten notation	Second Grade		
Building fluency with addition and subtraction	Second Grade		
Using standard units of measure	Second Grade		
Describing and analyzing shapes	Second Grade		
Developing understanding of multiplication and division and strategies for multiplication and division within 100	Third Grade		
Developing understanding of fractions, especially unit fractions (fractions with numerator 1)	Third Grade		
Developing understanding of the structure of rectangular arrays and of area	Third Grade		

Critical Area	Course	Grade Level Choice	Comments
Describing and analyzing two-dimensional shapes	Third Grade		
Developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends	Fourth Grade		
Developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers	Fourth Grade		
Understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry	Fourth Grade		
Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions)	Fifth Grade		
Extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole numbers and decimal operations	Fifth Grade		
Developing understanding of volume	Fifth Grade		
Connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems	Sixth Grade		

Critical Area	Course	Grade Level Choice	Comments
Completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers	Sixth Grade		
Writing, interpreting, and using expressions and equations	Sixth Grade		
Developing understanding of statistical thinking	Sixth Grade		
Developing understanding of and applying proportional relationships	Seventh Grade		
Developing understanding of operations with rational numbers and working with expressions and linear equations	Seventh Grade		
Solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume	Seventh Grade		
Drawing inferences about populations based on samples	Seventh Grade		
Formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations	Eighth Grade		
Grasping the concept of a function and using functions to describe quantitative relationships	Eighth Grade		
Analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem	Eighth Grade		

Critical Area	Course	Grade Level Choice	Comments
Relationships between quantities and reasoning with equations	Algebra I		
Linear and exponential relationships	Algebra I		
Descriptive statistics	Algebra I		
Expressions and equations	Algebra I		
Quadratic functions and modeling	Algebra I		
Congruence, proof, and constructions	Geometry		
Similarity, proof, and trigonometry	Geometry		
Extending to three dimensions	Geometry		
Connecting algebra and geometry through coordinates	Geometry		
Circles with and without coordinates	Geometry		
Applications of probability	Geometry		
Polynomial, rational, and radical relationships	Algebra II		
Trigonometric functions	Algebra II		
Modeling with functions	Algebra II		
Inferences and conclusions from data	Algebra II		

Critical Area	Course	Grade Level Choice	Comments
Relationships between quantities	Math I		
Linear and exponential relationships	Math I		
Reasoning with equations	Math I		
Congruence, proof, and constructions	Math I		
Connecting algebra and geometry through coordinates	Math I		
Congruence, proof, and constructions	Math I		
Extending the number system	Math II		
Quadratic functions and modeling	Math II		
Expressions and equations	Math II		
Applications of probability	Math II		
Similarity, right triangle trigonometry, and proof	Math II		
Circles with and without coordinates	Math II		
Inferences and conclusions from data	Math III		
Polynomial, rational, and radical relationships	Math III		
Trigonometric functions	Math III		
Mathematical modeling	Math III		