

Number and Operations

Whole Numbers			
K-2	3-5	6-8	9-12
Compare & Represent to 999	Represent & Compare to 999,999	Compare & Represent to Trillions	Relate to set of Real Numbers
Add & Subtract 2 digit numbers with regrouping	Add & Subtract 4 digit numbers	Develop Fluency (+, -, x, ÷)	Reinforce four basic operations
Readiness for Multiplication	Multiply and Divide up to 3 digits		
	Factors multiples/Prime factorization	GCF, LCM	GCF, LCM
		Exponents	
Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications
Fractions			
K-2	3-5	6-8	9-12
Relate to Concrete & pictorial models	Represent & Represent	Mental Computation Strategies	Relate to set of Real Numbers
	Equivalent Fractions	Develop Fluency (+, -, x, ÷)	Reinforce four basic operations
	Use Models (+, -, x)		
	Estimation Processes	Estimation Processes	Estimation Processes
Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications
Decimals and Percents			
K-2	3-5	6-8	9-12
	Represent & Compare through Hundredths	Fraction, Decimal, Percent Equivalences	Relate to set of Real Numbers
	Use Models (+, -)	Place Value through Trillions and Hundred Millionths	
		Scientific Notation	
		Develop Fluency (+, -, x ÷)	Reinforce four basic operations
		Ratio, Proportion & Percent	
	Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications	Estimation, Problem Solving & Applications

Algebra

Patterns, Relations, and Functions

K-2	3-5	6-8	9-12
Identify, predict & complete patterns, numeric & non-numeric	Determine the rule	Identify domain, range, and function rule (linear functions) Use functions to generate paired data Represent paired data in multiple ways	Expand concepts to more complex functions, including polynomial, logarithmic, and trigonometric Operations on functions

Expressions and Order of Operations

K-2	3-5	6-8	9-12
	Order of operations: (+, -, x, ÷)	Evaluate polynomials Order of operations: include parentheses and exponents	Factor polynomials

Equations and Inequalities

K-2	3-5	6-8	9-12
Select the appropriate number or symbol to solve a given problem (+, -, =, <, >)	Include x, ÷	Solving multi-step equations and inequalities Set-up and solve proportions	Solve problems using rational equations Solve and develop linear and non-linear equations and inequalities

Geometry

Spatial Relations

K-2	3-5	6-8	9-12
Informal relationships relative to position and size	Determine geometric relationships (parallel, perpendicular, simple transformations)	Analyze affects of basic transformations	Determine and apply the image of figures from transformations
Recognize and create shapes that are symmetrical with respect to a specified line	Determine line of symmetry	Ordered pairs and the Cartesian plane	Recongize an explanation of symmetry

Plane Figures

K-2	3-5	6-8	9-12
Recognize, name, draw and construct basic geometric shapes	Identify and distinguish among point, line, line segment, ray, and angle	Identify physical and symbolic representations using appropriate labeling	Identify, name, and define or describe properties associated with points, segments, angle, lines, and planes
Recognize, name, draw and construct basic geometric shapes	Sort, classify and make models of plane figures	Expand classifications of plane figures	State and apply properties and definitions of plane figures
		Identify properties of parallel lines cut by a transversal	
		Determine if angles are complementary or supplementary	
			Use central angle to define trigonometric functions as both circular functions and ratios of sides of right triangles

3-D Figures

K-2	3-5	6-8	9-12
Identify cubes, cones, spheres and cylinders	Sort, classify and make models of solid figures	Expand classification of solid figures	State and apply properties and definitions of 3-D figures
	Identify characteristics of solid figures		

Equivalence Relations

K-2	3-5	6-8	9-12

Non-standard similarity: color, texture, pattern

Determine geometric similarity and congruence

Use properties to determine the similarity and congruence of figures

Identify similar and congruent figures in practical applications

Recognize and apply properties of similar polygons using ratio and proportion

Logic and Reasoning

K-2

3-5

6-8

9-12

Use geometric figures, properties and relations to solve problems

Apply formal and/or informal logical reasoning method to geometric scenarios

Use inductive and deductive reasoning to prove conjectures in written form such as paragraph, two-column or flow chart

Measurement

Customary and Metric Units (time, temperature, weight and capacity)			
K-2	3-5	6-8	9-12

Use of non-standard units

Use of basic standard units

Use of standard units

Basic conversions within systems

Conversions within systems with an emphasis on rational measurements

Conversions of angle measurements between degrees and radians

Determine value of set of coins amount of money spent or change received

Estimate and determine

Count back change

Add and subtract monies using decimal notation

Length, Perimeter, Area, Surface Area, Weight, and Volume			
K-2	3-5	6-8	9-12

Measure length and weight

Measure perimeter, area, and volume using concrete experiences connecting to formulas

Use of basic formulas

Use and apply distance and midpoint formulas

Area, perimeter, circumference, surface area,

Lateral area

Use of Pythagorean Theorem

Data Analysis and Probability

Charts, Tables, and Graphs

K-2	3-5	6-8	9-12
Construct bar graphs and pictographs with whole number data	Collect and organize data into charts and tables Explore line graphs	Construct frequency distributions, histograms, lineplots, stem-and-leaf plots, box and whisker plots and	

Statistics

K-2	3-5	6-8	9-12
Interpret simple graphs and tables	Read, interpret, compare and draw conclusions from charts, tables, and graphs Use clustering to explore the concepts of mean, median, and mode Calculate mathematical mean Explore random sampling	Interpret from stacked bar, double line and multiple bar graphs Apply mean, median, mode, and range to describe tendencies of data and make predictions	Analyze sources of variation and interpret and draw conclusions when solving applied problems Construct sampling distributions from students experiments, random number tables, and computer

Probability

K-2	3-5	6-8	9-12
	Determine the probability of a given event through concrete experiences Express as more, less, equally likely or not likely	Determine the probabilities of simple and compound events Express probability as a rational number from 0 to 1	Determine probability of the union or intersection of two events Distinguish between odds and probabilities Assign probabilities to the outcomes of a random variable and calculate expected value