|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **K** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
| **Numbers** | * Number concepts to 10
* Ways to make 5
 | * Number concepts to 20
* Ways to make 10
 | * Number concepts to 100
* Benchmarks of 25, 50, and 100 and personal referents *(ie: thumb = 1 inch)*
 | * Number concepts to 1000
* Fraction concepts
 | * Number concepts to 10 000
* Decimals to hundredths
* Ordering and comparing fractions
 | * Number concepts to 1 000 000
* Decimals to thousandths
* Equivalent fractions
* Whole-number, fraction, and decimal benchmarks
 | * Small to large numbers (thousandths to billions)
* Improper fractions and mixed numbers
* Introduction to ratios
* Whole number percents and percentage discounts
 | * Relationship between decimals, fractions, and percents
 | * Perfect squares and cubes
* Square and cube roots
* Percents less than 1 and greater than 100 (decimal and fractional percents)
* Pythagorean Theorem
* Numerical proportional reasoning (rates, ratio, proportions, and percent)
 | * Exponent and exponent laws with whole-number exponents
 |
| **Developing Computational Fluency** | * Decomposition of numbers to 10
* Change in quantity to 10 using concrete materials
 | * Addition and subtraction to 20 (understanding of operation and process)
* Change in quantity to 20, concretely and verbally
 | * Addition and subtraction facts to 20 (introduction of computational strategies)
* Addition and subtraction to 100
* Change in quantity using pictorial and symbolic representation
 | * Addition and subtraction to 1000
* Addition and subtraction facts to 20 (emerging computational fluency)
* Multiplication and division concepts
 | * Addition and subtraction to 10 000
* Multiplication and division of two-or-three-digit numbers by one-digit numbers
* Addition and subtraction of decimals to hundredths
* Addition and subtraction facts to 20 (developing computational fluency)
* Multiplication and division facts to 100 (introductory computational strategies)
 | * Addition and subtraction of whole numbers to 1 000 000
* Multiplication and division to three-digits including division with remainders
* Addition and subtraction of decimals to thousandths
* Addition and subtraction facts to 20 (extending computational fluency)
* Multiplication and division facts to 100 (emerging computational strategies)
 | * Order of operations with whole numbers
* Factors and multiples, greatest common factor and least common multiple
* Multiplication and division of decimals
* Multiplication and division facts to 100 (developing computational fluency)
 | * Operations with integers (addition, subtraction, multiplication, division, and order of operations)
* Operations with decimals (addition, subtraction, multiplication, division, and order of operations)
* Multiplication and division facts to 100 (extending computational fluency)
 | * Operations with fractions (addition, subtraction, multiplication, division, and order of operations)
* Numerical proportional reasoning
 | * Operations with rational numbers (addition, subtraction, multiplication, division and order of operations)
* Operations with polynomials, of degree less than or equal to two
 |
| * Financial literacy: attributes of coins and financial role-play
 | * Financial literacy: values of coins and monetary exchanges
 | * Financial literacy: coin combinations to 100 cents, and spending and saving
 | * Financial literacy: fluency with coins and bills to 100 dollars, and earning and payment
 | * Financial literacy: monetary calculations, including making change with amounts to 100 dollars and making simple financial decisions
 | * Financial literacy: monetary calculations, including making change with amounts to 1000 dollars and developing simple financial plans
 | * Financial literacy: simple budgeting and consumer math
 | * Financial Literacy: financial percentage
 | * Financial Literacy: best buys
 | * Financial Literacy: simple budgets and transactions
 |
| **Spatial Sense** | * Direct comparative measurement (ie: Linear, mass, capacity)
* Single attributes of 2D shapes and 3D objects
 | * Direct measurement with non-standard units (non-uniform and uniform)
* Comparison of 2D shapes and 3D objects
 | * Direct linear measurement, introducing standard metric units
* Multiple attributes of 2D shapes and 3D objects
 | * Measurement using standard units (linear, mass, and capacity)
* Time concepts
* Construction of 3D shapes
 | * How to tell time with analog and digital clocks, using 12-and-24-hour clocks
* Regular and irregular polygons
* Perimeter of regular and irregular shapes
* Line symmetry
 | * Duration, using measurement of time
* Area measurement of squares and rectangles
* Relationships between area and perimeter
* Classification of prisms and pyramids
* Single transformations
 | * Perimeter of complex shapes
* Area of triangles, parallelograms and trapezoids
* Angle measurement and classification
* Volume and capacity
* Triangles
* Combinations of transformations
 | * Circumference and area of circles
* Volume of rectangular prisms and cylinders
* Combinations of transformations
 | * Surface area and volume of regular solids including triangular and other right prisms and cylinders
* Construction, views and nets of 3D objects
 | * Spatial proportional reasoning
 |
| **Patterns and Relations** | * Repeating patterns with two or three elements
* Equality as a balance and inequality as an imbalance
 | * Repeating patterns multiple elements and attributes
* Meaning of equality and inequality
 | * Repeating and increasing patterns
* Symbolic representation of equality and inequality
 | * Increasing and decreasing patterns
* Pattern rules using words and numbers based on concrete experiences
* One-step addition and subtraction equations with an unknown number
 | * Increasing and decreasing patterns, using tables and charts
* Algebraic relationships among quantities
* One-step equations with an unknown number using all operations
 | * Increasing and decreasing patterns with words, numbers, symbols, and variables
* One-step equations with variables
 | * Increasing and decreasing patterns, using expressions, tables and graphs as functional relationships
* One-step equations with whole-number coefficients and solutions
 | * Two-step equations with whole number coefficients, constants and solutions
 | * Expressions – writing an evaluating using substitution
* Two-step equations with integer coefficients, constants and solutions
 | * Multi-step one-variable linear equations
* Two-variable linear relations, using graphing, interpolation, and extrapolation
 |
| **Statistics and Probability** | * Concrete or pictorial graphs as a visual tool for the class
 | * Concrete graphs using one-to-one correspondence
 | * Pictorial representation of concrete graphs using one-to-one correspondence
 | * One-to-one correspondence with bar graphs, pictographs, charts and tables
 | * One-to-one correspondence and many-to-one correspondence, using bar graphs and pictographs
 | * One-to-one correspondence and many-to-one correspondence, using double bar graphs
 | * Line graphs
 | * Discrete linear relations, using expressions, tables, and graphs
* Cartesian coordinates and graphing
* Circle graphs
 | * Discrete linear relations (extended to larger numbers, limited to integers)
 |  |
| * Likelihood of familiar life events
 | Likelihood of familiar life events using, comparative language  | * Likelihood of familiar life events, using comparative language
 | * Likelihood of simulated events using comparative language
 | * Probability experiments
 | * Probability experiments, single events, or outcomes
 | * Single-outcome probability, both theoretical and experimental
 | * Experimental probability with two independent events
 | * Theoretical probability with two independent events
* Central tendency
 | * Statistics in society
 |

**MATH K-9 CONTINUUM OF CONTENT (KNOW)**