



EVERYDAY MATHEMATICS

GRADE 4 GRADE-LEVEL GOALS

Content Strand: Number and Numeration		
Grade-Level Goals	Content Thread	Program Goal
Goal 1 Read and write whole numbers up to 1,000,000,000 and decimals through thousandths; identify places in such numbers and the values of the digits in those places between whole numbers and decimals represented in words and in base-10 notation.	<i>Place value and notation</i>	Understand the Meanings, Uses, and Representations of Numbers
Goal 2 Read, write, and model fractions; solve problems involving fractional parts of a region or a collection; describe and explain strategies used; given a fractional part of a region or a collection, identify the unit whole.	<i>Meanings and uses of fractions</i>	
Goal 3 Find multiples of whole numbers less than 10; find whole-number factors of numbers.	<i>Number theory</i>	
Goal 4 Use numerical expressions involving one or more of the basic four arithmetic operations and grouping symbols to give equivalent names for whole numbers.	<i>Equivalent names for whole numbers</i>	Understand Equivalent Names for Numbers
Goal 5 Use numerical expressions to find and represent equivalent names for fractions and decimals; use and explain a multiplication rule to find equivalent fractions; rename fourths, fifths, tenths, and hundredths as decimals and percents.	<i>Equivalent names for fractions, decimals, and percents</i>	
Goal 6 Compare and order whole numbers up to 1,000,000,000 and decimals through thousandths; compare and order integers between -100 and 0; use area models, benchmark fractions, and analyses of numerators and denominators to compare and order fractions.	<i>Comparing and ordering numbers</i>	Understand Common Numerical Relations



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Content Strand: Operations and Computation		
Grade-Level Goals	Content Thread	Program Goal
Goal 1 Demonstrate automaticity with basic addition and subtraction facts and fact extensions.	<i>Addition and subtraction facts</i>	Computes Accurately
Goal 2 Use manipulatives mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the addition and subtraction of whole numbers and decimals through hundredths; describe the strategies used and explain how they work.	<i>Addition and subtraction procedures</i>	
Goal 3 Demonstrate automaticity with multiplication facts through $10 * 10$ and proficiency with related division facts; use basic facts to compute fact extensions such as $30 * 60$.	<i>Multiplication and division facts</i>	
Goal 4 Use mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the multiplication of multidigit whole numbers by 2-digit whole numbers and the division of multidigit whole numbers by 1-digit whole numbers; describe the strategies used and explain how they work.	<i>Multiplication and division procedures</i>	
Goal 5 Use manipulatives, mental arithmetic, and calculators to solve problems involving the addition and subtraction of fractions with like and unlike denominators; describe the strategies used.	<i>Procedures for addition and subtraction of fractions</i>	
Goal 6 Make reasonable estimates for whole number and decimal addition and subtraction problems and whole number multiplication and division problems; explain how the estimates were obtained.	<i>Computational estimation</i>	Make Reasonable Estimates
Goal 7 Use repeated addition, skip counting, arrays, area, and scaling to model multiplication and division.	<i>Models for the operations</i>	Understand Meanings of Operations



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Content Strand: Data and Chance		
Grade-Level Goals	Content Thread	Program Goal
Goal 1 Collect and organize data or use given data to create charts, tables, bar graphs, line plots, and line graphs.	<i>Data collection and representation</i>	Select and Create Appropriate Graphical Representations of Collected or Given Data
Goal 2 Use the maximum, minimum, range, median, mode, and graphs to ask and answer questions, draw conclusions, and make predictions.	<i>Data analysis</i>	Analyze and Interpret Data
Goal 3 Describe events using <i>certain, very likely, likely, unlikely, very unlikely, impossible</i> and other basic probability terms; use <i>more likely, equally likely, same chance, 50-50, less likely</i> , and other basic probability terms to compare events; explain the choice of language.	<i>Qualitative probability</i>	Understand and Apply Basic Concepts of Probability
Goal 4 Predict the outcomes of experiments and test the predictions using manipulatives; summarize the results and use them to predict future events; express the probability of an event as a fraction.	<i>Quantitative probability</i>	



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Content Strand: Measurement and Reference Frames		
Grade-Level Goals	Content Thread	Program Goal
Goal 1 Estimate length with and without tools; measure length to the nearest $\frac{1}{4}$ inch and $\frac{1}{2}$ centimeter; estimate the size of angles without tools.	<i>Length, weight, and angles</i>	Understand the Systems and Processes of Measurement; Use Appropriate Techniques, Tools, Units, and Formulas in Making Measurements
Goal 2 Describe and use strategies to measure the perimeter and area of polygons, to estimate the area of irregular shapes, and to find the volume of rectangular prisms.	<i>Area, perimeter, volume, and capacity</i>	
Goal 3 Describe relationships among U.S. customary units of length and among metric units of length.	<i>Units and systems of measurement</i>	
Goal 4 Use ordered pairs of numbers to name, locate, and plot points in the first quadrant of a coordinate grid.	<i>Coordinate systems</i>	Use and Understand Reference Frames



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Content Strand: Geometry		
Grade-Level Goals	Content Thread	Program Goal
Goal 1 Identify, draw, and describe points, intersecting and parallel line segments and lines, rays, and right, acute, and obtuse angles.	<i>Lines and angles</i>	Investigate Characteristics and Properties of Two- and Three-Dimensional Geometric Shapes
Goal 2 Describe, compare, and classify plane and solid figures, including polygons, circles, spheres, cylinders, rectangular prisms, cones, cubes, and pyramids, using appropriate geometric terms including <i>vertex</i> , <i>base</i> , <i>face</i> , <i>edge</i> , and <i>congruent</i> .	<i>Plane and solid figures</i>	
Goal 3 Identify, describe, and sketch examples of reflections; identify and describe examples of translations and rotations.	<i>Transformations and symmetry</i>	Apply Transformations and Symmetry in Geometric Situations



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Content Strand: Patterns, Functions, and Algebra		
Grade-Level Goals	Content Thread	Program Goal
Goal 1 Extend, describe, and create numeric patterns; describe rules for patterns and use them to solve problems; use words and symbols to describe and write rules for functions that involve the four basic arithmetic operations and use those rules to solve problems.	<i>Patterns and functions</i>	Understand Patterns and Functions
Goal 2 Use conventional notation to write expressions and number sentences using the four basic arithmetic operations; determine whether number sentences are true or false; solve open sentences and explain the solutions; write expressions and number sentences to model number stories.	<i>Algebraic notation and solving number sentences</i>	Use Algebraic Notation to Represent and Analyze Situations and Structures
Goal 3 Evaluate numeric expressions containing grouping symbols; insert grouping symbols to make number sentences true.	<i>Order of operations</i>	
Goal 4 Apply the Distributive Property of Multiplication over Addition to the partial-products multiplication algorithm.	<i>Properties of the arithmetic operations</i>	