



EVERYDAY MATHEMATICS

GRADE 5 GRADE-LEVEL GOALS

Content Strand: Number and Numeration		
Grade-Level Goals	Content Thread	Program Goal
Goal 1 Read and write whole numbers and decimals; identify places in such numbers and the values of the digits in those places; use expanded notation to represent whole numbers and decimals.	<i>Place value and notation</i>	Understand the Meanings, Uses, and Representations of Numbers
Goal 2 Solve problems involving percents and discounts; describe and explain strategies used; identify the unit whole in situations involving fractions.	<i>Meanings and uses of fractions</i>	
Goal 3 Identify prime and composite numbers; factor numbers; find prime factorizations.	<i>Number theory</i>	
Goal 4 Use numerical expressions involving one or more of the basic four arithmetic operations, grouping symbols, and exponents to give equivalent names for whole numbers; convert between base-10, exponential, and repeated-factor notations.	<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 decimals, and percents; use and explain multiplication and division rules to find equivalent fractions and fractions in simplest form; convert between fractions and mixed numbers; convert between fractions, 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 Use mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the addition and subtraction of whole numbers, decimals, and signed numbers; describe the strategies used and explain how they work.	<i>Addition and subtraction procedures</i>	Computes Accurately
Goal 2 Demonstrate automaticity with multiplication facts and proficiency with division facts and extensions.	<i>Multiplication and division facts</i>	
Goal 3 Use mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the multiplication of whole numbers and decimals and the division of multidigit whole numbers and decimals by whole numbers; express remainders as whole numbers or fractions as appropriate; describe the strategies used and explain how they work.	<i>Multiplication and division procedures</i>	
Goal 4 Use mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the addition and subtraction of fractions and mixed numbers; describe the strategies used and explain how they work.	<i>Procedures for addition and subtraction of fractions</i>	
Goal 5 Use area models, mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the multiplication of fractions and mixed numbers; use diagrams, a common-denominator method, and calculators to solve problems involving the division of fractions; describe the strategies used.	<i>Procedures for multiplication and division of fractions</i>	
Goal 6 Make reasonable estimates for whole number and decimal addition, subtraction, multiplication, and division problems and fraction and mixed number addition and subtraction problems; explain how the estimates were obtained.	<i>Computational estimation</i>	Make Reasonable Estimates
Goal 7 Use repeated addition, arrays, area, and scaling to model multiplication and division; use ratios expressed as words, fractions, percents, and with colons; solve problems involving ratios of parts of a set to the whole set.	<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 bar, line, and circle graphs with reasonable titles, labels, keys, and intervals.	<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 mean 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, test the predictions using manipulatives, and summarize the results; compare predictions based on theoretical probability with experimental results; use summaries and comparisons to predict future events; express the probability of an event as a fraction, decimal, or percent.	<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 with tools to the nearest 1/8 inch and millimeter; estimate the measure of angles with and without tools; use tools to draw angles with given measures.	<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 find the perimeter of polygons and the area of circles; choose and use appropriate formulas to calculate the areas of rectangles, parallelograms, and triangles, and the volume of a prism; define <i>pi</i> as the ratio of a circle's circumference to its diameter.	<i>Area, perimeter, volume, and capacity</i>	
Goal 3 Describe relationships among U.S. customary units of length; among metric units of length; and among U.S. customary units of capacity.	<i>Units and systems of measurement</i>	
Goal 4 Use ordered pairs of numbers to name, locate, and plot points in all four quadrants 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, describe, compare, name, and draw right, acute, obtuse, straight, and reflex angles; determine angle measures in vertical and supplementary angles and by applying properties of sums of angle measures in triangles and quadrangles.	<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 using appropriate geometric terms; identify congruent figures and describe their properties.	<i>Plane and solid figures</i>	
Goal 3 Identify, describe, and sketch examples of reflections, 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; write rules for functions involving the four basic arithmetic operations; represent functions using words, symbols, tables, and graphs and use those representations to solve problems.	<i>Patterns and functions</i>	Understand Patterns and Functions
Goal 2 Determine whether number sentences are true or false; solve open number sentences and explain the solutions; use a letter variable to write an open sentence to model a number story; use a pan-balance model to solve linear equations with one unknown.	<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 and nested grouping symbols; insert grouping symbols and nested grouping symbols to make number sentences true; describe and use the precedence of multiplication and division over addition and subtraction.	<i>Order of operations</i>	
Goal 4 Describe and apply properties of arithmetic.	<i>Properties of the arithmetic operations</i>	