



Grade 6 Grade-Level Goals

3rd Edition

Content Strand: Number and Numeration		
Program Goal	Content Thread	Grade-Level Goals
Understand the Meanings, Uses, and Representations of Numbers	<i>Place value and notation</i>	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, number-and-word notation, exponential notation, and scientific notation to represent whole numbers and decimals.
	<i>Meanings and uses of fractions</i>	Goal 2 Solve problems involving percents and discounts; explain strategies used; identify the unit whole in situations involving fractions, decimals, and percents.
	<i>Number theory</i>	Goal 3 Use GCFs, LCMs, and divisibility rules to manipulate fractions.
Understand Equivalent Names for Numbers	<i>Equivalent names for whole numbers</i>	Goal 4 Apply the order of operations to numerical expressions to give equivalent names for rational numbers.
	<i>Equivalent names for fractions, decimals, and percents</i>	Goal 5 Find equivalent fractions and fractions in simplest form by applying multiplication and division rules and concepts from number theory; convert between fractions, mixed numbers, decimals, and percents.
Understand Common Numerical Relations	<i>Comparing and ordering numbers</i>	Goal 6 Choose and apply strategies for comparing and ordering rational numbers; explain those choices and strategies.





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Content Strand: Operations and Computation		
Program Goal	Content Thread	Grade-Level Goals
Computes Accurately	<i>Addition and subtraction procedures</i>	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>Multiplication and division procedures</i>	Goal 2 Use mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the multiplication and division of whole numbers, decimals, and signed numbers; describe the strategies used and explain how they work.
	<i>Procedures for addition and subtraction of fractions</i>	Goal 3 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 multiplication and division of fractions</i>	Goal 4 Use mental arithmetic, paper-and-pencil algorithms, and calculators to solve problems involving the multiplication and division of fractions and mixed numbers; describe the strategies used and explain how they work.
Make Reasonable Estimates	<i>Computational estimation</i>	Goal 5 Make reasonable estimates for whole number, decimal, fraction, and mixed number addition, subtraction, multiplication, and division problems; explain how the estimates were obtained.





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Content Strand: Operations and Computation (continued)		
Program Goal	Content Thread	Grade-Level Goals
Understand Meanings of Operations	<i>Models for the operations</i>	Goal 6 Use ratios and scaling to model size changes and to solve size-change problems; represent ratios as fractions, percents, and decimals, and using a colon; model and solve problems involving part-to-whole and part-to-part ratios; model rate and ratio number stories with proportions; use and explain cross multiplication and other strategies to solve proportions.

Content Strand: Data and Chance		
Program Goal	Content Thread	Grade-Level Goals
Select and Create Appropriate Graphical Representations of Collected or Given Data	<i>Data collection and representation</i>	Goal 1 Collect and organize data or use given data to create bar, line, circle, and stem-and-leaf graphs with reasonable titles, labels, keys, and intervals.
Analyze and Interpret Data	<i>Data analysis</i>	Goal 2 Use the minimum, range, median, mode, and mean and graphs to ask and answer questions, draw conclusions, and make predictions; compare and contrast the median and mean of a data set.
Understand and Apply Basic Concepts of Probability	<i>Quantitative probability</i>	Goal 3 Use the Multiplication Counting Principle, tree diagrams, and other counting strategies to identify all possible outcomes for a situation; predict results of experiments, test the predictions using manipulatives, and summarize the findings; compare predictions based theoretical probability with experimental results; calculate probabilities and express them as fractions, decimals, and percents; explain how sample size affects results; use the results to predict future events.





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Content Strand: Measurement and Reference Frames		
Program Goal	Content Thread	Grade-Level Goals
Understand the Systems and Processes of Measurement; Use Appropriate Techniques, Tools, Units, and Formulas in Making Measurements	<i>Length, weight, and angles</i>	Goal 1 Estimate length with and without tools; measure length with tools to the nearest 1/16 inch and millimeter; estimate the measure of angles with and without tools; use tools to draw angles with given measures.
	<i>Area, perimeter, volume, and capacity</i>	Goal 2 Choose and use appropriate formulas to calculate the circumference of circles and to solve area, perimeter, and volume problems.
Use and Understand Reference Frames	<i>Coordinate systems</i>	Goal 3 Use ordered pairs of numbers to name, locate, and plot points in all four quadrants of a coordinate grid.

Content Strand: Geometry		
Program Goal	Content Thread	Grade-Level Goals
Investigate Characteristics and Properties of Two- and Three-Dimensional Geometric Shapes	<i>Lines and angles</i>	Goal 1 Identify, describe, classify, name and draw angles; determine angle measures by applying properties of orientations of angles and of sums of angle measures in triangles and quadrangles.
	<i>Plane and solid figures</i>	Goal 2 Identify and describe similar and congruent figures and describe their properties; construct a figure that is congruent to another figure using a compass and straightedge.
Apply Transformations and Symmetry in Geometric Situations	<i>Transformations and symmetry</i>	Goal 3 Identify, describe, and sketch (including plotting on the coordinate plane) instances of reflections, translations, and rotations.





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Content Strand: Patterns, Functions, and Algebra		
Program Goal	Content Thread	Grade-Level Goals
Understand Patterns and Functions	<i>Patterns and functions</i>	Goal 1 Extend, describe, and create numeric patterns; describe rules for patterns and use them to solve problems; represent patterns and rules using algebraic notation; represent functions using words, algebraic notation, tables, and graphs; translate from one representation to another and use representations to solve problems involving functions.
Use Algebraic Notation to Represent and Analyze Situations and Structures	<i>Algebraic notation and solving number sentences</i>	Goal 2 Determine whether equalities and inequalities are true or false; solve open number sentences and explain the solutions; use a pan-balance model to solve linear equations in one or two unknowns; use trial-and-error and equivalent equation strategies to solve linear equations in one unknown.
	<i>Order of operations</i>	Goal 3 Describe and apply the conventional order of operations.
	<i>Properties of the arithmetic operations</i>	Goal 4 Describe and apply properties of arithmetic and multiplicative and additive inverses.

