Cycle 1	What methods can we use to collect, analyze, and interpret data? What strategies and tools can we use to solve addition and subtraction problems? What strategies and methods can we use to develop an understanding of multiplication facts?	Number Sense Operations/Computation Patterns, Functions, Algebra Graphing & Analysis Problem Solving Estimation/ Measurement	-Represents equivalent names for numbers -Reviews relations symbols (>, <, =) -Recalls addition and subtractions facts to 18 -Extends fact families -Identifies and uses number patterns to solve problems -Models, illustrates and writes multiplication problems -Explores magic squares -Collects, organizes, graphs and analyzes data -Uses data to make predictions -Makes and interprets bar graphs -Communicates solutions verbally and in writing -Makes predictions based on a sample	Individual and Group Conferences Written and Verbal Responses Observation Small Group Informal Assessments MAP Scores Activote Assessments Cycle Assessments Observational Assessment Records Pre/Post Assessments Math Exemplar	Math Trailblazers Unit Resource Guides Manipuatives Discovery Journals Adventure Journals Activstudio Flipcharts Center Activities Web Resources Observational Assessment Records
	Key Vocabulary: data table, most common, least common, population, sample, horizontal axis, vertical, axis, prediction, variable, value, sum, addend, keystrokes, turn-around facts, magic square, difference, rubric, multiplication number sentence, multiple				

Cycle 2	What strategies and models can we use to represent, compare, and add two digit numbers? What methods and strategies can we use to measure and characterize the area and perimeter of shapes? What are the strategies and representations can we use to model the addition and subtraction of large numbers (maximum of 4 digits)?	Number Sense Operations/Computation Algebraic Reasoning Data & Probability Problem Solving Estimation/ Measurement	-Applies place value concepts using 4-digit numbers -Investigates two-, three-, and four- digit numbers using Base-Ten blocks -Develops an understanding of the communitive and associative properties of whole number addition as a tool to solve problems -Arranges numbers in order by comparison -Regroups to add large numbers -Models addition of two-digit numbers with regrouping -Models addition of two-digit numbers with regrouping -Applies area and length measurements to a real life situation -Investigates the relationship between shape and area -Solves problems involving data from an experiment -Finds the median value in a set of data -Defines the variables in an experiment, including the variables that are held fixed throughout the experiment -Gathers, organizes, and analyzes data by using pictures, data tables and graphs -Estimates and finds area of irregular shapes by counting sq. cm. -Estimates prices -Tells time to the nearest five minutes -Explores telling time using word problems	Individual and Group Conferences Written and Verbal Responses Observation Small Group Informal Assessments MAP Scores Activote Assessments Cycle Assessments Observational Assessment Records Pre/Post Assessments	Math Trailblazers Unit Resource Guides Manipuatives Discovery Journals Adventure Journals Activstudio Flipcharts Center Activities
	Key Vocabulary: base ten board, bits, digit, fewest pieces rule, mulitidigit number, partition, recording sheet, skinnies, packs, flats, regrouping, analog clock, digital clock, area, estimate, square centimeter, average, mean, median, variable, nice numbers, rounding, palindrome				

	Essential Questions	Content	Skills	Assessment	Resources
Cycle 3	What strategies can we use to solve and communicate solutions for multiplication and division problems, including perimeter? What methods and strategies can we use to represent location and motion on a map or plane? How do patterns help you understand the relationship between mass and weight? What strategies and concepts can be used to solve a variety of problems?	Number Sense Operations/Computation Patterns, Functions, Algebra Geometry Data & Probabillity Problem Solving Estimation/ Measurement	-Reinforces concepts of addition and subtraction -Explores the concepts of multiplication and division through repeated operations -Discovers patterns and use them to predict -Investigates the relationship between a side a perimeter -Explores locating points in a plane -Reinforces the collection of data -Reinforces using data to make predictions -Uses point graphs to solve problems and make predictions -Investigates the mass of a variety of objects -Compares the mass of a group of objects to the quantity of objects -Reinforces concepts of subtraction -Reinforces number sense, communicating and decision making with money	Individual and Group Conferences Written and Verbal Responses Observation Small Group Informal Assessments MAP Scores Activote Assessments Cycle Assessments Observational Assessment Records Pre/Post Assessments	Math Trailblazers Unit Resource Guides Manipuatives Discovery Journals Adventure Journals Activstudio Flipcharts Center Activities
	Key Vocabulary: extrapolation, interpolation, point graph, number line, remainder, equilateral triangle, perimeter, regular hexagon, regular pentagon, coordinates, front axis, back axis, left axis, right axis, origin, parallel, perpendicular, gram, mass, measurement error, standard mass, two pan balance, unit of measure, best fit line				

	Essential Questions	Content	Skills	Assessment	Resources
Cycle 4	What methods and strategies can we use to develop and understand multiplication? What methods, language, and representations do we use to identify, characterize, and relate different shapes? What language, strategies, and representations can we use to show the part to whole relationship that is fractions?	Number Sense Operations/Computation Patterns, Functions, Algebra Geometry Data & Probability Problem Solving Estimation/ Measurement	-Explores the relation between the size of the whole and the size of the fraction -Connects concrete situations with fraction symbols and words -Develops an understanding of equivalent fractions and sums of fractions using manipulatives -Discovers basic multiplication facts by writing and solving problems -Investigates multiplication by multiples of 10 and 100 -Investigates division involving zero -Creates a multiplication table of facts and examine it for patterns -Creates rectangular arrays to explore turnaround facts, prime numbers and squares- -Explores area, congruence and reflections on a geoboard using fractional parts - -Explores the relationship of multiplication and division through solving problems -Solves puzzles that require dissecting figures in specific ways -Solves problems involving fair share -Explores dissections by creating, measuring, describing and analyzing a variety of geometric puzzles	Individual and Group Conferences Written and Verbal Responses Observation Small Group Informal Assessments MAP Scores Activote Assessments Cycle Assessments Observational Assessment Records Pre/Post Assessments	Math Trailblazers Unit Resource Guides Manipuatives Discovery Journals Adventure Journals Activstudio Flipcharts Center Activities

	Key Vocabulary: denominator, numerator, hexagon, rhombus, trapezoid, unit whole, angle, area, edge, tangram, congruent, corner (vertex), line of symmetry, line symmetry, square corner (right angle), congruent, hexagon, pentagon, quadrilateral

	Essentials Question	Content	Skills	Assessment	Resources
Cycle 5	How do we collect, generate, organize, and display data collected from real world activities? What methods, language, and strategies can we use to communicate and represent decimals? What methods can we use to measure the volume of solid objects and containers?	Number Sense Operations/Computation Patterns, Functions, Algebra Geometry Data & Probabillity Problem Solving Estimation/ Measurement	--Reinforces concepts of addition and subtraction -Reinforce number sense and decimal concepts using money -Understands simple percentages (0%, 25%, 50%, 75%, 100%) as benchmarks -Investigates decimals through notation for tenths and hundredths and counting -Completes multi-digit addition and subtraction problems -Investigates the relationship between the number of identical objects in a row and the length of the row -Uses data to make predictions -Gathers, organizes and analyzes data by using pictures, data tables and graphs -Reinforces collecting, graphing and analyzing data -Measures lengths of objects to the nearest centimeter -Identifies relationships of size between decimals -Reinforce collecting, graphing and analyzing data -Models the volume of various objects by using centimeter cubes -Measures the volume of objects by displacing water in a cylinder -Discovers the relationship between customary units of measure -Measures elapsed time and time to the nearest minute	Individual and Group Conferences Written and Verbal Responses Observation Small Group Informal Assessments MAP Scores Activote Assessments Cycle Assessments Observational Assessment Records Pre/Post Assessments	Math Trailblazers Unit Resource Guides Manipuatives Discovery Journals Adventure Journals Activstudio Flipcharts Center Activities

	Key Vocabulary: percent, survey, common fraction, fraction, decimal fraction, decimal, hundredth, tenth, nearest tent of a centimeter, cubic centimeter, displacement, graduated cylinder, liter, meniscus, milliliter, volume, cup, gallon, pint, quart, mileage

	Essentials Question	Content	Skills	Assessment	Resources
Cycle 6	What problem solving strategies do we use to solve a variety of problems we have encountered? What methods, representations, and language can we use to create and compare different fractional values? What methods and strategies can be use to visualize, compare, and describe two and three-dimensional shapes using area, volume, and height? What strategies and methods can we apply to multiplication and division situations?	Number Sense Operations/Computation Patterns, Functions, Algebra Geometry Data & Probabillity Problem Solving Estimation/ Measurement	-Investigates concept-of-unit through problems using pattern blocks -Develops the concept of fraction and equivalent fractions through paper-folding -Compares fractions -Develops a "Pencil and paper" algorithm for multiplication of 2-digit by 1 digit numbers -Reinforces division strategies -Calculates base area, volume and height of a cube -Reinforces using patterns in tables and graphs to make predictions -Reinforces using multiplication and division to solve problems -Reinforces collecting, organizing and graphing data -Reinforces communicating problem-solving strategies -Develops the process of writing a multiplication problem as a sum of easier problems -Reinforces solving problems in cooperative groups -Reinforces writing and solving multiplication story problems --Describes 3_D objects as seen from different perspectives -Draws and constructs 3-D models from 2-D drawings -Compares and describes characteristics of the objects	Individual and Group Conferences Written and Verbal Responses Observation Small Group Informal Assessments MAP Scores Activote Assessments Cycle Assessments Observational Assessment Records Pre/Post Assessments	Math Trailblazers Unit Resource Guides Manipuatives Discovery Journals Adventure Journals Activstudio Flipcharts Center Activities

	Key Vocabulary: congruent, equivalent, corner, edge, face, one dimensional, rectangular prsim, three dimensional, two dimensional, vertex, vertices, cube, parallel, parallelogram, quadrilateral, right angle, square, base, cube model plan, cubic units, floor plan, square units, front view, right side view, top view