Teacher: CORE Math Grade 6	Year: 2010-11
Course: Math Grade 6	Month: All Months

September

NUMBER SENSE AND OPERATIONS

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Place-Value and Exponents	Write whole numbers using words (standard form) Read whole numbers written in standard form Name the place and value of the underlined digit. Translate numbers in different forms including standard, word, short-word, and expanded form Compare 2 or more whole numbers using ,= symbols. Order whole numbers from least to greatest. Write repeated multiplication in exponential form.		Diagnostic Math 6 Test 9/10/2011			6.N.1 -Read and write whole numbers to trillions 6.N.23 - Represent repeated multiplication in exponential form 6.N.24 - Represent exponential form as repeated multiplication 6.N.25 - Evaluate expressions having exponents where the power is an exponent of one, two, or three

		Write an exponential number as repeated multiplication. Evaluate an exponential number with powers of 1,2,3.					
	Rounding and Estimation: sums, differences, products and quotients	Round a whole number to a given place using the appropriate rules for rounding. Estimate 2 or more whole numbers sums, differences, products and quotients.					6.N.27 -Justify the reasonableness of answers using estimation (including rounding) 6.M.8 -Justify the reasonableness of estimates
	Operations: Order of Operation	Identify what each letter represents in PEMDAS Understand and apply the two exceptions to the PEMDAS rule (only adding and subtracting left in problem -					6.N.22 - Evaluate numerical expressions using order of operations (may include exponents of two and three)

		go left to right) evaluate an order of operations problem						
	Properties:communitives, associative, identity , distributive	Name the property shown in an equation (commutative, associative,identity, distributive and multiplication property of zero solve for a missing number in the equation multiply a single digit number by a double digit number by a double using the distributive property (using either addition or subtraction method)						6.N.2 -Define and identify the commutative and associative properties of addition and multiplication 6.N.3 -Define and identify the distributive property of multiplication over addition 6.N.4 -Define and identify the identity and inverse properties of addition and multiplication 6.N.5 -Define and identify the zero property of multiplication

October

ALGEBRA

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Variables and expressions	Identify 'clue words' within a one-step expression in order to identify the					6.A.1-Translate two-step verbal expressions into algebraic

			operation. Convert a one-step word phrase into an algebraic expression. Evaluate a one-step expression if given the value of the variable. Define variables and constants.					expressions 6.A.2-Use substitution to evaluate algebraic expressions (may include exponents of one, two and three) 6.N.25 - Evaluate expressions having exponents where the power is an exponent of one, two, or three 6.A.4 - Solve and explain two-step equations involving whole numbers using inverse operations
	Whole Number Equations	Identify the 'clue words' within a one--step equations in order to determine the operation Convert a						6.A.1-Translate two-step verbal expressions into algebraic expressions 6.A.2-Use substitution to evaluate algebraic

			one-step word phrase into an algebraic equations. Evaluate a one-step equations if given the value of the variable. Solves for a variable in a one-step equation using inverse operations.					expressions (may include exponents of one, two and three) 6.N.25 - Evaluate expressions having exponents where the power is an exponent of one, two, or three 6.A.4 - Solve and explain two-step equations involving whole numbers using inverse operations

November

FRACTIONS AND MIXED NUMBERS

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Patterns	identify the pattern for a given set of numbers and/or shapes complete the pattern in a given set of numbers					6.N.20 - Represent fractions as terminating or repeating decimals
	Divisibility	tell whether a					

		given number is divisible by 2,3,5,6,9, or 10									
	Greatest Common Factor (GCF)	list the factors for a given number find the GCF for two of three numbers									
	Decimal and Place-Value	read and write decimals to the thousandths place write decimals in decimal, word, short-word, and expanded forms									
	Understanding Fractions	name the fraction that represents the shaded/non-shaded part of a given figure/polygon draw and shade-in a figure to represent a given fraction									
	Equivalent Fractions	name three equivalent									

		fractions reduce a fraction to simplest form									
	Improper Fractions	convert an improper fraction to a mixed number and vice versa									

December

FRACTIONS--ADDING/SUBTRACTING

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Add/Subtract Fractions with Like Denominators	add/subtract fractions with like denominators					6.N.16 -Add and subtract fractions with unlike denominators
	Least Common Multiple (LCM)	list the multiples of a given number find the LCM for two or three numbers					
	Estimating Sums and Differences of Fractions/Mixed Numbers	round a fraction/mixed number to the nearest whole number estimate the sum or difference of two to three fractions/mixed numbers					6.N.17 - Multiply and divide fractions with unlike denominators 6.N.19- Identify the multiplicative inverse (reciprocal) of a number
	Add Fractions and Mixed	identify a common					6.N.16 -Add and subtract

	Numbers with Unlike Denominators	multiple /LCM to use as a common denominator add two to three fractiosns/mixed numbers with like and unlike denominator reduce sum to simplest form						fractions with unlike denominators 6.N.18 -Add, subtract, multiply, and divide mixed numbers with unlike denominators 6.N.17 - Multiply and divide fractions with unlike denominators
	Subtracting Fractions/Mixed Numbers	identify a common multiple/LCM to use as a common multiple subtract two fractions/mixed numbers with like and unlike denominators reduce difference to simplest form						6.N.16 -Add and subtract fractions with unlike denominators 6.N.18 -Add, subtract, multiply, and divide mixed numbers with unlike denominators

January

FRACTIONS--MULTIPLYING/DIVIDING

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Multiplying a Fraction by a Whole Number	cancel numerators and denominators by a common factor/GCF prior to multiplying					6.N.18 -Add, subtract, multiply, and divide mixed numbers with unlike denominators 6.N.17 -

		multiply a fraction by a whole number reduce product to simplest form					Multiply and divide fractions with unlike denominators
	Multiplying Fractions	cancel numerators/denominators by a common factor/GCF prior to multiplying multiply two fractions reduce product to simplest form					6.N.18 -Add, subtract, multiply, and divide mixed numbers with unlike denominators 6.N.17 - Multiply and divide fractions with unlike denominators
	Estimating with Fractions and Mixed Numbers	round a fraction/mixed number to the nearest whole number estimate the product/quotient of fractions/mixed numbers					6.N.18 -Add, subtract, multiply, and divide mixed numbers with unlike denominators
	Multiplying Mixed Numbers	convert mixed numbers to improper fractions cancel numerators/denominators by a common factor prior to multiplying multiply two mixed numbers reduce product to simplest form					6.N.18 -Add, subtract, multiply, and divide mixed numbers with unlike denominators 6.N.19- Identify the multiplicative inverse (reciprocal) of a number 6.N.17 -

							Multiply and divide fractions with unlike denominators
	Dividing Fractions	convert mixed numbers to improper fractions name the reciprocal for a given proper/improper fraction multiply two fractions using canceling as needed reduce quotient to simplest form					6.N.17 - Multiply and divide fractions with unlike denominators 6.N.18 -Add, subtract, multiply, and divide mixed numbers with unlike denominators 6.N.19- Identify the multiplicative inverse (reciprocal) of a number
	Dividing Mixed Numbers	convert mixed numbers to improper fractions name the reciprocal for a given proper/improper fraction/whole number multiply two fractions using canceling as needed reduce qotient to simplest form					
	Expressions with Fractions	identify operational "clue" words					

		translate a word phrase into an algebraic expression evaluate an expression if given the value of a variable						
	Solving Equations with Fractions	solve for the variable in a given equation with fractions						

February

PERCENTS

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Connecting Fractions, Decimals, and Percents	write a decimal as a fraction up to the thousandths place (in simplest form) write a fraction as either a terminating or repeating decimal convert a decimal to a percent identify the shaded/non-shaded portion of					6.N.20 - Represent fractions as terminating or repeating decimals 6.N.21 -Find multiple representations of rational numbers (fractions, decimals, and percents 0 to 100) 6.N.26 - Estimate a percent of quantity (0% to 100%)

		given figure using fractions, decimals, and percents						
	Percents	convert a fraction and/or decimal to a percent find a percent of a given number estimate the percent of a given quantity						
	Comparing and Ordering Fractions and Decimals	compare two decimals and/or fractions order four to five fractions/decimals from least to greatest and vice versa						
	Sales Tax and Discount	solve for the percent of a given number add the tax to the initial cost of the item to determine the grand total subtract the discount from the original price in						

		order to determine the new sale price						

RATIOS AND PROPORTIONS

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Ratios	write a ratio for a comparison in three different ways find equivalent ratios compare to or more ratios					6.N.11 -Read, write, and identify percents of a whole (0% to 100%) 6.N.12 -Solve percent problems involving percent, rate, and base 6.N.20 - Represent fractions as terminating or repeating decimals 6.N.21 -Find multiple representations of rational numbers (fractions, decimals, and percents 0 to 100) 6.N.26 - Estimate a

							percent of quantity (0% to 100%)
	Rates	translate a word phrase into a rate simplify a given rate into a unit rate compare two or more rates					
	Proportions	determine if two ratios form a proportion solve for the variable in a given proportion					

INTEGERS

Essential	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards

	Integers	complete a number line from -10 to +10 identify the missing integer(s) on a given number line name the opposite of a given integer							
	Comparing/Ordering Integers	compare two integers order four to five integers from least to greatest and vice versa							
	Absolute Value	determine the absolute value of a given integer							

March

GEOMETRY

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Polygons	name regular polygons including triangles, quadrilaterals, pentagons, hexagons,	geometry irregular polygon quadrilateral rectangle rhombus regular				

		and octagon	polygon square trapezoid triangle							
	Perimeter and Area	find the perimeter of regular and irregular polygons solve for the area of triangles and quadrilaterals	perimeter area formula length height width regular polygon irregular polygon base				6.G.2 - Determine the area of triangles and quadrilaterals (squares, rectangles, rhombi, and trapezoids) and develop formulas 6.G.3 -Use a variety of strategies to find the area of regular and irregular polygons			
	Volume	solve for the volume of rectangular prisms or cylinders using the appropriate formulas					6.G.4 - Determine the volume of rectangular prisms by counting cubes and develop the formula			
	Circles	solve for the circumference, using the appropriate formula(s), if given the radius or diameter solve for the area of a circle, using the					6.G.5 - Identify radius, diameter, chords and central angles of a circle 6.G.6 - Understand the relationship between the			

			appropriate formula(s),if given the radius or diameter solve for the area of a sector of a circle using the appropriate formula identify the radius, diameter, chord, sector, and central angle of a given circle solve for the diameter of a circle if given the radius and vice versa					diameter and radius of a circle 6.G.7 - Determine the area and circumference of a circle, using the appropriate formula 6.G.8 - Calculate the area of a sector of a circle, given the measure of a central angle and the radius of the circle 6.G.9 - Understand the relationship between the circumference and the diameter of a circle
		Similar Figures	calculate the length of corresponding sides of two similar triangles					6.A.6-Evaluate formulas for given input values (circumference, area, volume, distance, temperature, interest, etc.) 6.G.2 - Determine the area of triangles and quadrilaterals (squares,

								rectangles, rhombi, and trapezoids) and develop formulas
	Coordinate Planes	number and label the x and y axis on a coordinate plane plot points in all four quadrants						

April

STATISTICS

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Organization and Display of Data	Record data in a frequency table Construct Venn Diagram Select the most appropriate graph to display a given set of data (pictograph, bar graph, line graph, histogram, or circle graph)					6.S.2 - Record data in a frequency table 6.S.3 - Construct Venn diagrams to sort data 6.S.4 - Determine and justify the most appropriate graph to display a given set of data (pictograph, bar graph, line graph, histogram, or circle graph)
	Collection	Select the					6.S.1 -

		of Data	best method to collect data for a particular question					Develop the concept of sampling when collecting data from a population and decide the best method to collect data for a particular question
		Analysis of Data	Find the mean, median, and mode for a given set of data Find the range for a given set of data Read graphs Interpret graphs Justify predictions made from data					6.S.5 - Determine the mean, mode and median for a given set of data 6.S.6 - Determine the range for a given set of data 6.S.7 -Read and interpret graphs 6.S.8- Justify predictions made from data

May

MEASUREMENT

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards	
	Customary Measurement Metric Measurement	Identify customary units of measure.						

			Identify the most appropriate customary unit of measurement for distance and/or capacity. Convert customary units of measurement. Identify metric units of measurement. Identify the most appropriate metric unit of measure for distance and capacity. Convert metric units of measurement.						

June

PROBABILITY

Essential Questions	Content	Skills	Vocabulary	Assessments	Lessons	Resources	Standards
	Adding & Multiplying Probabilities	Determine the number of possible outcomes for a single or compound event.					6.S.1 - Develop the concept of sampling when collecting data from a population

			Determine the probability of independent or dependent events.					and decide the best method to collect data for a particular question 6.S.4 - Determine and justify the most appropriate graph to display a given set of data (pictograph, bar graph, line graph, histogram, or circle graph)