

Teacher: Core Math Grade 6

Year: 2008-2009

Course: Math Grade 6

Decimals		
Content	Skills	Standards
Add, subtract, multiply, divide Story problems Formulation of strategies	Calculations Use of number theory Use of manipulatives	6.A.1.2. ~ Write algebraic expressions involving addition or multiplication using whole numbers. 6.A.3.0. ~ Interpret and develop mathematical models. 6.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures

Decimals		
Content	Skills	Standards
Add/Subtract/multiply/divide decimals Story Problems with decimals and formulate strategies to solve.	Demonstrate ability to add/subtract/multiply/divide decimals Solve story problems with decimals and formulate strategies to solve.	6.A.1.0. ~ Use procedures to transform algebraic expressions 6.A.1.1. ~ Use order of operations, excluding nested parentheses and exponents, to simplify whole number expressions. 6.A.1.2. ~ Write algebraic expressions involving addition or multiplication using whole numbers. 6.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities. 6.A.2.1. ~ Write and solve one-step 1st degree equations, with one variable, involving inverse operations using the set of whole numbers. 6.N.2.0. ~ Apply number operations with real numbers and other

		<p>number systems.</p> <p>6.N.2.1. ~ Add, subtract, multiply, and divide decimals.</p> <p>6.N.3.1. ~ Students are able to use various strategies to solve one- and two- step problems involving positive decimals.</p>
--	--	--

Algebraic Expressions

Content	Skills	Standards
<p>Operations: Orders Parenthesis Algebraic expression One-step inverse operations Equivalent forms of fractions/decimals</p> <p>Exponents</p>	<p>Evaluate algebraic expressions</p> <p>Write verbal phrases and sentences as simple algebraic expressions and equations</p> <p>Order of operations is used to evaluate numeric and algebraic expressions.</p> <p>Solve problems</p> <p>Calculations using exponents</p>	<p>6.A.1.0. ~ Use procedures to transform algebraic expressions</p> <p>6.A.1.1. ~ Use order of operations, excluding nested parentheses and exponents, to simplify whole number expressions.</p> <p>6.A.1.2. ~ Write algebraic expressions involving addition or multiplication using whole numbers.</p> <p>6.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.</p> <p>6.A.2.1. ~ Write and solve one-step 1st degree equations, with one variable, involving inverse operations using the set of whole numbers.</p> <p>6.A.3.0. ~ Interpret and develop mathematical models.</p> <p>6.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.</p> <p>6.N.1.1. ~ Represent fractions in equivalent forms and convert between fractions, decimals, and percents using halves, fourths, tenths, hundredths.</p>

Factoring

Content	Skills	Standards
Convert time Factors and Multiples of whole numbers Express results in correct form Calculate/estimate operations to solve Divisibility Rules Common Denominators Simplest Terms	Determine prime factoring Use factoring to find GCF. Determine when to use the different types of factoring. Evaluate algebraic expressions Perform calculations with numbers to fit the rules Use time to find duration, time began, am/pm Factor ladders for LCM Find common denominators and simplest terms	6.A.1.0. ~ Use procedures to transform algebraic expressions 6.A.1.1. ~ Use order of operations, excluding nested parentheses and exponents, to simplify whole number expressions. 6.A.1.2. ~ Write algebraic expressions involving addition or multiplication using whole numbers. 6.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities. 6.A.3.0. ~ Interpret and develop mathematical models. 6.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses. 6.A.4.1. ~ Use concrete materials, graphs and algebraic statements to represent problem situations. 6.M.1.1. ~ Select, use, and convert appropriate unit of measurement for a situation. 6.N.1.0. ~ Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers. 6.N.1.1. ~ Represent fractions in equivalent forms and convert between fractions, decimals, and percents using halves, fourths, tenths, hundredths. 6.N.1.2. ~ Find factors and multiples of whole numbers. 6.S.1.0. ~ Use statistical models to gather, analyze, and display data

to draw conclusions.

6.S.2.1. ~ Find the probability of a simple event.

Mean, Median and Mode

Content

Skills

Standards

Time

Select calculations for time

6.A.1.2. ~ Write algebraic expressions involving addition or multiplication using whole numbers.

Fraction

Conversion of time

6.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.

Mean, median, mode

Find mean, median, mode

6.A.2.1. ~ Write and solve one-step 1st degree equations, with one variable, involving inverse operations using the set of whole numbers.

Operations of fractions

6.A.3.0. ~ Interpret and develop mathematical models.

Variety of methods for adding/subtraction

6.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.

6.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures

6.G.2.1. ~ Use basic shapes to demonstrate geometric concepts.

6.M.1.0. ~ Apply measurement concepts in practical applications.

6.M.1.1. ~ Select, use, and convert appropriate unit of measurement for a situation.

6.N.1.1. ~ Represent fractions in equivalent forms and convert between fractions, decimals, and percents using halves, fourths, tenths, hundredths.

		<p>6.N.1.2. ~ Find factors and multiples of whole numbers.</p> <p>6.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>6.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>6.N.3.1. ~ Students are able to use various strategies to solve one- and two- step problems involving positive decimals.</p> <p>6.S.1.1. ~ Find the mean, mode, and range of an ordered set of positive data.</p>
--	--	---

Customary Units

Content	Skills	Standards
Fractions	Multiply fractions	6.A.1.0. ~ Use procedures to transform algebraic expressions
Customary Units	Divide Fractions	6.A.1.1. ~ Use order of operations, excluding nested parentheses and exponents, to simplify whole number expressions.
	Operations with integers	6.A.1.2. ~ Write algebraic expressions involving addition or multiplication using whole numbers.
	Select, Use, Convert appropriate measurements	6.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
		6.A.2.1. ~ Write and solve one-step 1st degree equations, with one variable, involving inverse operations using the set of whole numbers.
		6.A.3.0. ~ Interpret and develop mathematical models.

		<p>6.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.</p> <p>6.G.2.1. ~ Use basic shapes to demonstrate geometric concepts.</p> <p>6.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>6.M.1.1. ~ Select, use, and convert appropriate unit of measurement for a situation.</p> <p>6.N.1.1. ~ Represent fractions in equivalent forms and convert between fractions, decimals, and percents using halves, fourths, tenths, hundredths.</p> <p>6.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>6.N.2.1. ~ Add, subtract, multiply, and divide decimals.</p> <p>6.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>6.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p>
--	--	--

Ratios, Percents, Proportions and Quadrants

Content	Skills	Standards
Ratios	Find the probability of events	6.A.3.0. ~ Interpret and develop mathematical models.
Percents	Use data to draw conclusions	6.A.3.1. ~ Identify and graph ordered pairs in Quadrant I on a coordinate plane.
Proportions	Use concrete materials to represent proportions	6.A.3.2. ~ Solve one-step problems involving ratios and rates.

<p>Quadrants</p>	<p>Demonstrate one step equations</p> <p>Ordered pairs in a graphing situation</p>	<p>6.A.4.1. ~ Use concrete materials, graphs and algebraic statements to represent problem situations.</p> <p>6.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives.</p> <p>6.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>6.N.1.0. ~ Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers.</p> <p>6.N.1.1. ~ Represent fractions in equivalent forms and convert between fractions, decimals, and percents using halves, fourths, tenths, hundredths.</p> <p>6.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>6.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>6.N.3.1. ~ Students are able to use various strategies to solve one- and two- step problems involving positive decimals.</p> <p>6.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p> <p>6.S.1.2. ~ Display data using bar and line graphs and draw conclusions from data displayed in a graph.</p> <p>G.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.</p>
------------------	--	---

Geometry

Content	Skills	Standards
Integers	Manipulate positive/negative integers	6.A.1.0. ~ Use procedures to transform algebraic expressions
Angles	Solve one-two step equations	6.A.1.1. ~ Use order of operations, excluding nested parentheses and exponents, to simplify whole number expressions.
Triangles	Use a compass/protractor	6.A.1.2. ~ Write algebraic expressions involving addition or multiplication using whole numbers.
Area/perimeter	Identify/describe angles	6.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
Quadrilaterals	Calculate area/perimeter	6.A.2.1. ~ Write and solve one-step 1st degree equations, with one variable, involving inverse operations using the set of whole numbers.
equations	Use of inverse operations	6.A.4.1. ~ Use concrete materials, graphs and algebraic statements to represent problem situations.
		6.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures
		6.G.1.1. ~ Identify and describe the characteristics of triangles and quadrilaterals.
		6.G.1.2. ~ Identify and describe angles.
		6.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives.
		6.G.2.1. ~ Use basic shapes to demonstrate geometric concepts.
		6.M.1.0. ~ Apply measurement concepts in practical applications.
		6.M.1.2. ~ Find the perimeter and area of squares and rectangles (whole number measurements).

		<p>6.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>6.N.2.1. ~ Add, subtract, multiply, and divide decimals.</p> <p>6.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p>
--	--	---

Geometry, Metrics

Content	Skills	Standards
<p>Metrics</p> <p>Quadrilaterals</p>	<p>Use formulas</p> <p>Use appropriate skills/measurements</p>	<p>6.A.3.0. ~ Interpret and develop mathematical models.</p> <p>6.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.</p> <p>6.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures</p> <p>6.G.1.1. ~ Identify and describe the characteristics of triangles and quadrilaterals.</p> <p>6.G.1.2. ~ Identify and describe angles.</p> <p>6.G.2.1. ~ Use basic shapes to demonstrate geometric concepts.</p> <p>6.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>6.M.1.1. ~ Select, use, and convert appropriate unit of measurement for a situation.</p> <p>6.M.1.2. ~ Find the perimeter and area of squares and rectangles (whole number measurements).</p>

		6.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.
--	--	--

Probability		
Content	Skills	Standards
Probability	Use line graphs Determine probability	6.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions. 6.S.1.2. ~ Display data using bar and line graphs and draw conclusions from data displayed in a graph. 6.S.2.1. ~ Find the probability of a simple event. G.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.

Teacher: Core Math Grade 7

Year: 2008-2009

Course: Math Grade 7

Whole Numbers		
Content	Skills	Standards
Integers	Place value on integers	7.M.1.0. ~ Apply measurement concepts in practical applications.

	Add and subtract integers Multiply and divide integers Problem solving integers	7.N.1.2. ~ Find and use common multiples and factors of whole numbers. 7.N.2.0. ~ Apply number operations with real numbers and other number systems. 7.N.2.1. ~ Add, subtract, multiply, and divide integers and positive fractions.
--	---	---

Working with Integers

Content	Skills	Standards
Integers	Identify positive and negative numbers	7.N.1.2. ~ Find and use common multiples and factors of whole numbers.
Decimals	Recognize the proper way in solving integer problems	7.N.2.0. ~ Apply number operations with real numbers and other number systems.
	Recognize Mean, Medium, Mode and Range	7.N.2.1. ~ Add, subtract, multiply, and divide integers and positive fractions.
	Find the mode, medium, mean and range	7.N.3.1. ~ Use various strategies to solve one- and two-step problems involving positive fractions and integers.
	Add and subtract integers	7.S.1.1. ~ Find the mean, median, mode, and range of a set of data.
	Multiply and divide integers	
	Problem solve with integers	
	Use the Distributive Property	
	Use properties of adding and subtracting	

	Use Order of Operations Find Absolute values and opposites	
--	---	--

Equations

Content	Skills	Standards
Equations and Inequalities	<p>Use the Distributions Property</p> <p>Use the properties of adding and subtracting to solve 1 step equations</p> <p>Write & evaluate algebraic expressions</p> <p>Solve 1 & 2 step algebraic equations</p> <p>Know the Order of Operations</p> <p>Solve problems by writing equations</p> <p>Write and graph inequalities</p> <p>Solve 1 step inequalities</p> <p>Learn the Distribution Property</p> <p>Solve 1 step equations by adding and subtracting</p> <p>Solve 1, 2 step equations by</p>	<p>7.A.1.1. ~ Write and evaluate algebraic expressions using the set of whole numbers.</p> <p>7.A.1.2. ~ Identify associative, commutative, distributive, and identity properties involving algebraic expressions.</p> <p>7.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.</p> <p>7.A.2.1. ~ Write and solve one-step 1st degree equations, with one variable, using the set of integers and inequalities, with one variable, using the set of whole numbers.</p> <p>7.A.3.1. ~ Identify and graph ordered pairs on a coordinate plane and inequalities on a number line.</p> <p>7.A.3.2. ~ Model and solve multi-step problems involving rates.</p> <p>7.A.4.1. ~ Recognize one-step patterns using tables, graphs, and models and create one-step algebraic expressions representing the pattern.</p> <p>7.A..1.0. ~ Use procedures to transform algebraic expressions</p>

	multiplying and dividing	
--	--------------------------	--

Exponents

Content	Skills	Standards
Exponents	Order of Operation Add and Subtract Exponents Writing Scientific Notation & Standard Form Write numbers in exponential form Find factors Work with positive and negative integers	7.N.1.1. ~ Represent numbers in a variety of forms by describing, ordering, and comparing integers, decimals, percents, and fractions. 8.A.1.0. ~ Use procedures to transform algebraic expressions

Rational Numbers

Content	Skills	Standards
Factors & Fractions	Find Multiples & factors Use prime factorization Make equivalent fractions Simplify Fractions Compare and order fractions Convert between mixed numbers	7.M.1.0. ~ Apply measurement concepts in practical applications. 7.N.1.2. ~ Find and use common multiples and factors of whole numbers. 7.N.2.1. ~ Add, subtract, multiply, and divide integers and positive fractions. 7.N.3.1. ~ Use various strategies to solve one- and two-step problems involving positive fractions and integers.

	<p>and improper fractions</p> <p>Relate fractions and decimals</p> <p>Compare and order rational numbers</p> <p>Recognize LCM, GCF</p> <p>Finding LCM and GCF</p>	
--	---	--

Rational Numbers (cont.)

Content	Skills	Standards
Operations with Fractions	<p>Use estimation strategies</p> <p>Add, subtract, multiply and divide fractions and mixed numbers</p> <p>Use problem solving strategies</p> <p>Convert units of length, capacity and weight</p> <p>Find and compare measurement precision</p>	<p>7.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>7.M.1.1. ~ Select, use, and convert appropriate units of measurement for a situation including capacity and angle measurement.</p> <p>7.N.1.1. ~ Represent numbers in a variety of forms by describing, ordering, and comparing integers, decimals, percents, and fractions.</p> <p>7.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>7.N.2.1. ~ Add, subtract, multiply, and divide integers and positive fractions.</p> <p>7.N.3.1. ~ Use various strategies to solve one- and two-step problems involving positive fractions and integers.</p>

Ratio

Content	Skills	Standards
Ratios, Rates and Proportions Percents	Write ratios Find and make equal ratios Find unit rates and prices Use problem solving strategies Test if ratios form a proportion Use cross multiply Solve proportions using unit ratios and involving variables Identify similar figures and find missing lengths of similar figures Solve problems involving scale using proportions Convert between fractions, decimals, and percent Find a percent of a number Write and solve percent equations Find tax, tip and commissions Find percent of increase and decrease	7.A.1.1. ~ Write and evaluate algebraic expressions using the set of whole numbers. 7.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities. 7.A.3.0. ~ Interpret and develop mathematical models. 7.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses. 7.A..1.0. ~ Use procedures to transform algebraic expressions 7.N.1.1. ~ Represent numbers in a variety of forms by describing, ordering, and comparing integers, decimals, percents, and fractions.

Geometry

Content	Skills	Standards
Geometry Geometry and Measurement	Identify segments, rays, and lines Measure and describe angles Find compliments and supplements of angles Construct segment and angle bisectors Classify triangles Find angle measures of triangles Use problem solving strategies Identify and work with congruent figures Identify parts of a circle Work with circle graphs Estimate length and area Find areas of figures Find square roots of numbers Use the Pythagorean Theorem	7.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities. 7.A.3.0. ~ Interpret and develop mathematical models. 7.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures 7.G.1.1. ~ Identify, describe, and classify polygons having up to 10 sides. 7.G.1.2. ~ Identify and describe elements of geometric figures. 7.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives. 7.G.2.1. ~ Demonstrate ways that shapes can be transformed. 7.M.1.0. ~ Apply measurement concepts in practical applications. 7.M.1.1. ~ Select, use, and convert appropriate units of measurement for a situation including capacity and angle measurement. 7.M.1.2. ~ When given the formulas, find circumference, perimeter, and area of circles, parallelograms, triangles, and trapezoids (whole number measurements). 7.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.
Graphs		
Content	Skills	Standards

<p>Graph in the Coordinate Plane</p> <p>Graphs</p>	<p>Understand graphs</p> <p>Know the points on a graph</p> <p>Make a graph</p> <p>Make estimations from a graph</p> <p>Describe a graph</p> <p>Sketch a graph from a description</p> <p>Use problem solving strategies</p> <p>Identify lines of symmetry</p> <p>Plot numbers in a graph</p> <p>Recognize the coordinate plane in a graph</p>	<p>7.A.3.1. ~ Identify and graph ordered pairs on a coordinate plane and inequalities on a number line.</p> <p>7.G.2.1. ~ Demonstrate ways that shapes can be transformed.</p> <p>7.M.1.1. ~ Select, use, and convert appropriate units of measurement for a situation including capacity and angle measurement.</p> <p>7.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>7.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p> <p>7.S.1.2. ~ Display data, using frequency tables, line plots, stem-and-leaf plots, and make predictions from data displayed in a graph.</p>
--	--	---

Probability

Content	Skills	Standards
<p>Display and Analyze Data</p> <p>Probability</p>	<p>Make a frequency table or line plot</p> <p>Draw a histogram</p> <p>Use a spreadsheet</p> <p>Read double bar and double line graphs</p> <p>Use problem solving strategies</p>	<p>7.N.1.0. ~ Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers.</p> <p>7.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>7.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p>

	<p>Identify a random sample</p> <p>Identify misleading graphs and statistics</p> <p>Draw and interpret scatter plots</p> <p>Find the probability of an event, independent events and dependent events</p> <p>Find the complements and the odds of events</p> <p>Find experimental probability</p> <p>Use simulations</p> <p>Find a sample space</p> <p>Use the counting principle</p> <p>Find permutations</p> <p>Find combinations</p>	
--	---	--

Teacher: Core Math Grade 8

Year: 2008-2009

Course: Math Grade 8

Introduction to Algebra

Content	Skills	Standards
<p>Tools for Problem Solving</p> <p>Introduction to Algebra</p>	<p>Use four- step plan</p> <p>Mental computations using properties and compensation</p> <p>Estimation strategies</p> <p>Determine reasonable answers</p> <p>Eliminate possibilities</p> <p>Use metric measurement</p> <p>Use customary measurement</p> <p>Use guess and check</p> <p>Use powers and exponents in expressions</p> <p>Evaluate numerical and algebraic expression using order of operations</p> <p>Identify and solve equations</p> <p>Solve equations using subtraction and adding properties of equality</p> <p>Solve equations using multiplication and division properties of equality</p> <p>Solve problems by working</p>	<p>8.A.1.1. ~ Use properties to expand, combine, and simplify 1st degree algebraic expressions with the set of integers.</p> <p>8.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.</p> <p>8.A.2.1. ~ Write and solve two-step 1st degree equations, with one variable, and one-step inequalities, with one variable, using the set of integers.</p> <p>8.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>8.M.1.1. ~ Apply proportional reasoning to solve measurement problems with rational number measurements.</p> <p>8.M.1.2. ~ Find area, volume, and surface area with whole number measurements.</p> <p>8.N.3.1. ~ Use various strategies to solve multi-step problems involving rational numbers.</p>

	<p>backwards</p> <p>Write algebraic expressions and equations from verbal phrases and sentences</p> <p>Solve two-step equations</p> <p>Solve problems by using an equation</p> <p>Perimeter and area of rectangles, square, parallelograms</p> <p>Identify and solve inequalities</p>	
--	---	--

Integers

Content

Skills

Standards

Integers

Statistics and Data Analysis

Graph integers on a number line and find the absolute value

Compare and order integers

Add integers

Add more than two integers

Subtract integers

Multiply integers

Divide integers

Solve problems by indentifying

8.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.

8.A.2.1. ~ Write and solve two-step 1st degree equations, with one variable, and one-step inequalities, with one variable, using the set of integers.

8.A.3.0. ~ Interpret and develop mathematical models.

8.A.3.1. ~ Describe and determine linear relationships.

8.N.1.1. ~ Represent numbers in a variety of forms and identify the subsets of rational numbers.

8.N.2.0 ~ Apply number operations with real numbers and other number systems.

	<p>important information</p> <p>Solve equations with integer solutions</p> <p>Graph points on a coordinate plane</p> <p>Solve problems by organizing data into a table</p> <p>Construct and interpret line plots</p> <p>Find the mean, median, and mode of a set of data</p> <p>Find the range and quartiles of a set of data</p> <p>Construct and interpret box-and-whisker plots</p> <p>Recognize when graphs and statistics are misleading</p> <p>Add and Subtract decimals</p>	<p>8.N.3.1. ~ Use various strategies to solve multi-step problems involving rational numbers.</p> <p>8.S.1.1. ~ Find the mean, median, mode, and range of a data set from a stem-and-leaf plot and a line plot.</p> <p>8.S.1.2. ~ Use a variety of visual representations to display data to make comparisons and predictions.</p>
--	--	--

Geometry

Content	Skills	Standards
Investigations in Geometry	<p>Use a protractor and define congruence in terms of angle measurement and length</p> <p>Identify lines that are parallel and the angles that are congruent</p>	<p>8.G.1.1. ~ Describe and classify prisms, pyramids, cylinders, and cone.</p> <p>8.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives.</p>

	<p>within them</p> <p>Use a Venn diagram to solve a problem</p> <p>Classify triangles</p> <p>Classify quadrilaterals</p> <p>Identify line symmetry and rotational symmetry</p> <p>Identify congruent and similar figures</p>	<p>8.G.2.1. ~ Write and solve proportions that express the relationships between corresponding parts of similar quadrilaterals and triangles.</p> <p>8.N.3.1. ~ Use various strategies to solve multi-step problems involving rational numbers.</p>
--	--	---

Number Sense

Content	Skills	Standards
Patterns and Number Sense	<p>Use divisibility rules for 2,3,4,5,6,8,9,10</p> <p>Find the prime factorization of a composite number</p> <p>Solve problems by making an organized list</p> <p>Find greatest common factor of two or more integers</p> <p>Identify and simplify rational numbers</p>	<p>8.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.</p> <p>8.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>8.N.1.0. ~ Analyze the structural characteristics of the real number system and its various subsystems. Analyze the concept of value, magnitude, and relative magnitude of real numbers.</p> <p>8.N.1.1. ~ Represent numbers in a variety of forms and identify the subsets of rational numbers.</p> <p>8.N.2.1. ~ Read, write, and compute within any subset of rational numbers.</p>

	<p>Express rational numbers as decimals and termination decimals as fractions</p> <p>Express repeating decimals as fractions</p> <p>Find the probability of a simple event</p> <p>Find the least common multiple of two or more integers</p> <p>Compare and order rational numbers as fractions and/or decimals</p> <p>Express number in scientific notation</p> <p>Find Least Common Multiple</p>	<p>8.N.3.1. ~ Use various strategies to solve multi-step problems involving rational numbers.</p> <p>8.S.1.2. ~ Use a variety of visual representations to display data to make comparisons and predictions.</p> <p>8.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.</p> <p>8.S.2.1. ~ Find the sample space and compute probability for two simultaneous independent events.</p>
--	--	--

Working with Rational Numbers

Content	Skills	Standards
Rational Numbers	<p>Add and subtract fractions with like denominators</p> <p>Add and subtract fractions with unlike denominators</p> <p>Multiply fractions</p> <p>Identify and use rational number properties</p>	<p>8.A.1.1. ~ Use properties to expand, combine, and simplify 1st degree algebraic expressions with the set of integers.</p> <p>8.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.</p> <p>8.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>8.M.1.2. ~ Find area, volume, and surface area with whole number measurements.</p>

	<p>Solve problems by finding and extending a pattern</p> <p>Recognize and extend arithmetic and geometric sequences</p> <p>Find areas of triangle and trapezoids</p> <p>Find circumference of a circle</p> <p>Divide fractions</p> <p>Solve equations with rational number solutions</p>	<p>8.N.2.1. ~ Read, write, and compute within any subset of rational numbers.</p> <p>8.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>8.N.3.1. ~ Use various strategies to solve multi-step problems involving rational numbers.</p>
--	--	---

Proportions and Numbers

Content	Skills	Standards
<p>Real Numbers</p> <p>Applications with Proportion</p>	<p>Find square roots of perfect squares</p> <p>Estimate square roots to the nearest whole number</p> <p>Use estimate/divide/average method to find square root to thousandths place</p> <p>Estimate square roots to the nearest tenth by guess and check</p> <p>Identify and classify numbers in the real number system</p>	<p>8.A.1.1. ~ Use properties to expand, combine, and simplify 1st degree algebraic expressions with the set of integers.</p> <p>8.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.</p> <p>8.A.3.0. ~ Interpret and develop mathematical models.</p> <p>8.G.1.2. ~ When given any two sides of an illustrated right triangle, use the Pythagorean Theorem to find the third side.</p> <p>8.G.2.1. ~ Write and solve proportions that express the relationships between corresponding parts of similar quadrilaterals and triangles.</p> <p>8.M.1.1. ~ Apply proportional reasoning to solve measurement</p>

	<p>Solve problems by using a formula</p> <p>Use Pythagorean Theorem to determine if a triangle is right</p> <p>Use Pythagorean Theorem to find missing sides</p> <p>Find distance between points in coordinate plane</p> <p>Express ratio as fractions in simplest form and determine unit rates</p> <p>Determine if a pair of ratios form a proportion and solve proportions</p> <p>Solve problems using proportions</p> <p>Identify corresponding parts of similar polygons</p> <p>Solve problems involving scale drawing</p>	<p>problems with rational number measurements.</p> <p>8.N.1.1. ~ Represent numbers in a variety of forms and identify the subsets of rational numbers.</p> <p>8.N.2.1. ~ Read, write, and compute within any subset of rational numbers.</p> <p>8.N.3.1. ~ Use various strategies to solve multi-step problems involving rational numbers.</p>
--	---	--

Percent & Functions

Content	Skills	Standards
Applications with Percent	Express fractions as percents	8.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
Algebraic Functions and Graphs	Solve problems using the percent proportion	8.A.3.1. ~ Describe and determine linear relationships.

	<p>Express decimals and fractions as percents</p> <p>Express percents as fractions and decimals</p> <p>Express percents greater than 100% or less than 1% as decimals and fractions</p> <p>Estimate by using fractions, decimals, and percents interchangeably</p> <p>Solve problems using the percent equation</p> <p>Construct circle graphs</p> <p>Find the percent of increase or decrease</p> <p>Solve problems using discounts</p> <p>Solve problems involving simple interest</p> <p>Complete functions tables</p>	<p>8.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.</p> <p>8.A.4.1. ~ Create rules to explain the relationship between numbers when a change in the first variable affects the second variable.</p> <p>8.A.4.2. ~ Describe and represent relations using tables, graphs, and rules.</p> <p>8.N.1.1. ~ Represent numbers in a variety of forms and identify the subsets of rational numbers.</p> <p>8.N.2.0 ~ Apply number operations with real numbers and other number systems.</p> <p>8.N.2.1. ~ Read, write, and compute within any subset of rational numbers.</p> <p>8.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>8.S.1.2. ~ Use a variety of visual representations to display data to make comparisons and predictions.</p>
--	---	--

Coordinate Geometry

Content

Skills

Standards

Graphing in the Coordinate Plane

Graph points on graph

8.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.

8.A.3.1. ~ Describe and determine linear relationships.

	<p>Read graphs or maps</p> <p>Graph linear functions by plotting points</p> <p>Find solutions in linear equations</p> <p>Understand Slope</p> <p>Find slope of a line</p> <p>Understand y-Intercept</p> <p>Identify Slope and y-intercept</p> <p>Use graphs of Equations</p>	<p>8.A.4.2. ~ Describe and represent relations using tables, graphs, and rules.</p> <p>8.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures</p> <p>8.N.2.0 ~ Apply number operations with real numbers and other number systems.</p> <p>8.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p> <p>8.S.1.2. ~ Use a variety of visual representations to display data to make comparisons and predictions.</p>
--	--	---

Polynomials

Content	Skills	Standards
Polynomials	<p>Represent polynomials with area models</p> <p>Simplify polynomials using area</p>	<p>8.A.1.1. ~ Use properties to expand, combine, and simplify 1st degree algebraic expressions with the set of integers.</p> <p>8.A.3.1. ~ Describe and determine linear relationships.</p>

	<p>models</p> <p>Add polynomials</p> <p>Subtract polynomials</p> <p>Multiply polynomials by a monomial and factor polynomials</p> <p>Multiply binomials</p> <p>Factor polynomials using area models</p>	
--	---	--