

Course: Math 7

S E P T E M B E	Algebra and Functions - In this unit, students will explore numbers and operations. They will examine powers, exponents, square roots, order of operations, and sequences.				
	Essential Questions	Content	Skills	Assessments	Reporting Category
	How do you represent relationships in numerical, verbal, geometric and symbolic form? (chapter 1)	VOCABULARY: algebra algebraic expression arithmetic sequence base coefficient defining the variable domain equation equivalent expressions evaluate exponent factors function function rule numerical expression order of operations perfect square powers radical sign range sequence solution square square root term variable PROPERTIES: Associative Property of Addition and Multiplication Commutative Property of Addition and	Define vocabulary. Use vocabulary appropriately to carry out directions and in class discussion.	<u>Chapter 1 Vocabulary Test</u> 9/30/2009	Numbers and Operations Measurement Data Analysis and Probability

	Multiplication Identity Property of Addition and Multiplication Distributive Property Zero Property				
	Four Step Problem Solving Plan.	Given a word problem understand, plan, solve, and check solution.	1-1 Lesson Quiz 9/30/2009 Practice 1-1 9/30/2009 1-1 Guided Problem Solving 9/30/2009	Numbers and Operations	M7.A.3.1 ~ Apply estimation strategies to a variety of problems.
	Operations with decimals	Use computation skills to add and subtract decimals without a calculator. multiply decimals and do mental math using the properties of multiplication. divide decimals using a calculator and solve problems by dividing decimals.	1-2 Lesson Quiz 9/30/2009 1-2 Practice 9/30/2009 1-2 Guided Problem Solving 9/30/2009 1-3 Lesson Quiz 9/30/2009 1-3 Practice 9/30/2009 1-3 Guided Problem Solving 9/30/2009 1-4 Lesson Quiz 9/30/2009 1-4 Practice 9/30/2009	Numbers and Operations	M7.A.2.1 ~ Complete calculations by applying the order of operations. M7.A.3.1 ~ Apply estimation strategies to a variety of problems. M7.A.3.2 ~ Compute accurately with and without use of a calculator.

			9/30/2009 <u>1-4 Guided Problem Solving</u> 9/30/2009 <u>Checkpoint Quiz 1</u> 9/30/2009		
	Metric conversion	Use and convert metric units of measure.	1-5 Practice 9/30/2009 <u>1-5 Guided Problem Solving</u> 9/30/2009 <u>1-5 ReTeaching</u> 9/30/2009 <u>1B Reading Comprehension</u> 9/30/2009	Measurement	M7.B.1.1 ~ Add or convert measurements. M7.E.1.1 ~ Interpret data shown in complex data displays.
	Integers.	Compare and order integers. Find absolute value and opposites.	1-6 Lesson Quiz 9/30/2009 <u>1-6 Practice</u> 9/30/2009 <u>1-6 Guided Problem Solving</u> 9/30/2009 <u>1-6 Puzzle and Enrichment</u> 9/30/2009 <u>Checkpoint Quiz 2</u> 9/30/2009	Numbers and Operations	M7.A.1.2 ~ Compare quantities and/or magnitudes of numbers.
	Operations with integers.	Add and subtract integers using the	1-7, 1-8 Lesson Quiz 1-7, 1-8 Practice 1-7, 1-8 Guided	Numbers and Operations	M7.A.2.1 ~ Complete M7.A.3.2 ~

		Math in a Box method. Use multiplication and division of integers to solve problems.	<u>Problem Solving (GPS)</u> 9/30/2009		order of operations. M7.A.3.2 ~ Compute accurately with and without use of a calculator.
	Order of operations.	Simplify numerical expressions involving order of operations.	<u>1-9 Lesson Quiz, Practice, My Dear Aunt Sally, GPS</u> 9/30/2009	Numbers and Operations	M7.A.2.1 ~ Complete calculations by applying the order of operations.
	Mean, Median, Mode and Range Describe data using the mean, median, or mode.	Find the mean, median, mode, and range of a set of data. Interpret measures of central tendency, and use the appropriate measure to describe a set of data.	<u>1-10 Lesson Quiz, ReTeaching, Practice, Guided Problem Solving Teacher made/collected worksheets</u> <u>4Sight open-ended questions</u> 9/30/2009 <u>Chapter 1 Test</u> 9/30/2009	Measurement	M7.E.2.1 ~ Describe, compare and/or contrast data using measures of mean, median, mode or range.

OCTOBER

Exponents, Factors, and Fractions - In this unit students will compare and order rational numbers, convert between fractions and decimals, and use order of operations to simplify expressions with exponents. We will use calculators for most content in this unit.

Essential Questions	Content	Skills	Assessments	Reporting Category	Standards
	VOCABULARY: Define		<u>Chapter 2</u>		

	base composite number equivalent fractions exponent factor greatest common factor (GCF) improper fraction least common denominator (LCD) least common multiple (LCM) mixed number power prime factorization prime number rational number repeating decimal scientific notation simplest form terminating decimal	vocabulary. Appropriately use vocabulary to carry out directions and during class discussion.	<u>Vocabulary Test</u> 10/31/2009		
	Exponents and Order of Operations.	Write and simplify expressions with exponents.	<u>2-1 Lesson Quiz, Practice, GPS, Puzzle</u> 10/31/2009	Numbers and Operations	M7.A.2.1 ~ Complete calculations by applying the order of operations.
	Prime Factorization	Find multiples and factors and to use prime factorization.	<u>2-2 Lesson Quiz, Practice, GPS</u> 10/31/2009	Numbers and Operations	
	Simplifying Fractions Comparing ad	Write equivalent Simplify	<u>2-3 and 2-4 Lesson Quizzes,</u>	Numbers and	M7.A.1.1 ~ M7.A.1.2 ~

NOVEMBER	Ordering Fractions	Simplify fractions. Compare and order fractions.	<u>Practice, GPS</u> 10/31/2009		forms. M7.A.1.2 ~ Compare quantities and/or magnitudes of numbers.
	Mixed numbers and improper fractions.	Write mixed numbers and improper fractions.	<u>2-5 Lesson Quiz, Practice, GPS</u> 10/31/2009	Numbers and Operations.	M7.A.1.2 ~ Compare quantities and/or magnitudes of numbers.
	Fractions and decimals Rational Numbers	Convert between fractions and decimals. Compare and order rational numbers.	<u>2-6 and 2-7 Lesson Quiz, Practice, GPS</u> 10/31/2009 <u>Chapter 2 Test</u> 10/31/2009	Numbers and Operations	M7.A.1.1 ~ Express numbers in equivalent forms. M7.A.1.2 ~ Compare quantities and/or magnitudes of numbers.

Operations with Fractions -					
Essential Questions	Content	Skills	Assessments	Reporting Category	Standards
	VOCABULARY: benchmark precision reciprocals	Define and give examples of vocabulary terms. Appropriately use vocabulary in class discussion.	<u>Chapter 3 Vocabulary Quiz</u> 11/30/2009		

D E C E M B E	Operations with fractions.	<p>Add and subtract fractions and solve problems involving fractions.</p> <p>Add and subtract mixed numbers and solve problems involving mixed numbers.</p> <p>Multiply fractions and mixed numbers and solve problems by multiplying.</p> <p>Divide fractions and mixed numbers and to solve problems by dividing.</p>	3-2, 3-3, 3-4, and 3-5 Lesson Quizzes, Practice, GPS <small>11/30/2009</small>	Numbers and Operations	
	The Customary System	<p>Change units of length, capacity, and weight in the customary system.</p> <p>Find and compare the precision of measurements.</p>	3-6 and 3-7 Lesson Quiz, Practice, GPS <small>11/30/2009</small>	Measurement	
			Chapter 3 Test <small>11/30/2009</small>		
	Geometry and Measurement -	In this unit, students will explore the geometry and measurement of two- and three-dimensional figures. They will learn to classify angles based on their measurements and then apply their knowledge.			
Essential Questions	Content	Skills	Assessments	Reporting Category	Standards
Can you		Classify angles	checkpoint		

R	<p>identify and describe properties of two-dimensional figures?</p> <p>Can you use formulas to determine area and volume of two- and three-dimensional figures?</p> <p>Can you derive and determine the area of a circle?</p>	<p>and identify vertical and adjacent angles.</p> <p>Identify complementary and supplementary angles and find missing angle measures.</p> <p>Construct and interpret circle graphs.</p> <p>Identify and classify triangles.</p> <p>Identify and classify quadrilaterals.</p> <p>Classify and identify polygons.</p>	<p>quizzes 12/19/2009</p> <p>chapter 10 multiple choice test 12/19/2009</p> <p>chapter 10 open ended exam 12/1/2009</p> <p>chapter 10 geometry project-pages document 12/1/2009</p>		
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J A N U A R Y	Ratios, Rates and Proportions					
	Essential Questions	Content	Skills	Assessments	Reporting Category	Standards
		<p>Ratios</p> <p>Unit Rates and Proportional Reasoning</p> <p>Proportions</p>	<p>PDE: Write ratios to compare quantities (e.g., ratio of boys to girls).</p> <p>PDE: Solve for a variable in a proportion.</p>		<p>Algebraic Concepts</p>	<p>M7.A.2.2 ~ Solve problems using ratios, proportions, percents and/or rates.</p> <p>M7.B.2.2 ~ Construct,</p>

Using Proportions	given proportion.			interpret and/or use scale drawings to solve real-world problems.
Similar Figures and Ratios	PDE: Use proportions to determine if two quantities are equivalent (e.g., similar figures, prices of different sized items, etc).			M7.C.1.2 ~ Identify congruence and/or similarity in polygons.
Variable Ratios				
Unit Fractions	PDE: Calculate unit rates (terminating decimals through the hundredth place only).			
Unit Unit				
Unit Fractions	PDE: Apply unit rates (terminating decimals through the hundredth place only).			
Missing Numerators				
Missing Denominators	PDE: Apply unit prices (terminating decimals through the hundredth place only).			
Scales				
Maps	PDE: Calculate unit prices (terminating decimals through the hundredth place only).			
Integers				
Models	PDE: Calculate unit prices (terminating decimals through the hundredth place only).			
Proportion	PDE: Apply unit prices (terminating decimals through the hundredth place only).			
Element				
Concept "Similarity"	PDE: Select and/or use ratios to solve problems.			
Angle	PDE: Select			
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	and/or use proportions to solve problems.		
responding to similar figures	PDE: Use proportions to find the missing length of a side in similar figures		
Similar Figures	PDE: Interpret scales shown on maps, blueprints, models, etc.	PDE: Apply scales shown on maps, blueprints, models, etc.	
	PDE: Determine an appropriate scale for reduction or enlargement.		
	PDE: Identify polygons that are similar, given either measurements or tic and angle marks.	PDE: Use polygons that are similar, given either measurements or tic and angle marks.	
	PDE: Identify corresponding sides similar polygons.		
	PDE: Identify corresponding		

		angles of similar polygons			
FEBRUARY	Statistics, Data Analysis, and Probability - <p>Glencoe Book-Unit 4, Chapter 8 Statistics: Analyzing Data Chapter 9 Probability</p>				
Essential Questions	Content	Skills	Assessments	Reporting Category	Standards
	CH 8 Vocabulary: analyze bar graph cluster convenience sample data histogram leaf line graph line plot mean measures of central tendency median mode outlier random sample range scatter plot statistics stem stem-and-leaf plot voluntary response sample	Define vocabulary terms.† Recognize vocabulary in directions.† Properly use vocabulary in a sentence or explanation.	<u>Vocabulary test</u> 2/28/2010	Data Analysis and Probability	M7.E.1.1 ~ Interpret data shown in complex data displays. M7.E.2.1 ~ Describe, compare and/or contrast data using measures of mean, median, mode or range. M7.E.2.2-OLD ~ Describe, compare and/or contrast data using measures of mean, median, mode or range. M7.E.3.1 ~ Determine or calculate theoretical or experimental probability. M7.E.4.1 ~ Draw conclusions and, make predictions based on data displays.
	Measures of Central	Describe a set of data using mean,	DHQ 8-2 2/1/2010	Data Analysis	M7.E.2.1 ~ Describe, compare and/or M7.E.2.2-OLD ~

M A R C H			median, mode, and range.			median, mode or range. M7.E.2.2-OLD ~ Describe, compare and/or contrast data using measures of mean, median, mode or range.
		Line Plots	Display and analyze data using a line plot.	DHQ 8-1 2/28/2010	Data Analysis and Probability	M7.E.1.1 ~ Interpret data shown in complex data displays.
	Fractions - Basic fraction concepts-divisibility rules, prime factorization, simplifying, converting mixed to improper and improper to mixed, add, subtract, multiply, and divide fractions and mixed numbers.					
	Essential Questions	Content	Skills	Assessments	Reporting Category	Standards
	Divisibility rules	Demonstrate how to use the divisibility rules to determine if a number is divisible of 2, 3, 4, 5, 6, 9, and 10.	DHQ divisibility rules 3/31/2010 QUIZ basic fraction concepts 3/31/2010 EXAM fractions 3/31/2010			M7.A.1.3 ~ Apply number theory concepts. OBSOLETE AS OF 2006-2007
	Prime factorization	Apply divisibility rules to prime factorize composite numbers. Use factor trees to prime factorize composite	DHQ prime factorization 3/31/2010 QUIZ basic fraction concepts 3/31/2010 EXAM fractions 3/31/2010			M7.A.1.1 ~ Express numbers in equivalent forms. M7.A.3.2 ~ Compute accurately with and without use of a calculator.

	numbers.	3/31/2010		
Equivalent fractions	<p>Simplify fractions.</p> <p>Write equivalent fractions.</p> <p>Write fractions in lowest terms.</p>	DHQ simplify fractions 3/31/2010 QUIZ basic fraction concepts 3/31/2010 EXAM fractions 3/31/2010		M7.A.1.1 ~ Express numbers in equivalent forms. M7.A.2.1 ~ Complete calculations by applying the order of operations.
Mixed numbers	<p>Convert mixed numbers to improper fractions.</p> <p>Convert improper fractions to mixed numbers.</p>	DHQ improper fractions and mixed numbers. 3/31/2010 QUIZ basic fraction concepts 3/31/2010 EXAM fractions 3/31/2010		M7.A.1.1 ~ Express numbers in equivalent forms.
Add/Subtract Fractions	<p>Add and subtract fractions with like denominators.</p> <p>Add and subtract fractions with unlike denominators.</p> <p>Add and subtract mixed numbers.</p>	DHQ add/sub with like 3/31/2010 DHQ add/sub unlike 3/31/2010 DHQ add/sub mixed 3/31/2010 QUIZ sums and differences 3/31/2010 EXAM fractions 3/31/2010		M7.A.3.1 ~ Apply estimation strategies to a variety of problems. M7.A.3.2 ~ Compute accurately with and without use of a calculator. M7.B.1.1 ~ Add or convert measurements.

			3/31/2010		
	Products and quotients of fractions. Multiply fractions and whole numbers. Multiply fractions and fractions. Multiply mixed numbers. Divide fractions.	<u>DHQ fraction x whole #</u> 3/31/2010 <u>DHQ fraction x fraction</u> 3/31/2010 <u>DHQ multiply mixed numbers</u> 3/31/2010 <u>DHQ divide fractions</u> 3/31/2010 <u>QUIZ multiply and divide fractions</u> 3/31/2010 <u>EXAM fractions</u> 3/31/2010	M7.A.2.1 ~ Complete calculations by applying the order of operations. M7.A.3.1 ~ Apply estimation strategies to a variety of problems. M7.A.3.2 ~ Compute accurately with and without use of a calculator.		

APRIL						
	Essential Questions	Content	Skills	Assessments	Reporting Category	Standards
MAY						
	Essential Questions	Content	Skills	Assessments	Reporting Category	Standards