

Teacher: Core Math Grade K

Year: 2007-2008

Course: Math Grade K

Intro to Kindergarten Math

Content	Skills	Standards
Calendar	Identify days of week	K.A.3.0. ~ Interpret and develop mathematical models.
Birthdays	Differentiate week days and weekend days	K.M.1.2. ~ Name the days of the week.
Patterns	Create pattern for calendar	K.S.1.1. ~ Describe data represented in simple graphs (using real objects) and pictographs.
Counting	Graph birthdays	
Graphing	Identify 8 basic colors	
Shapes	Identify basic shapes	
Colors	Count calendar days	

Intro to Kindergarten Math

Content	Skills	Standards
Calendar	Identify days of week	K.A.3.0. ~ Interpret and develop mathematical models.
Birthdays	Differentiate week days and weekend days	K.A.4.1. ~ Identify and extend two-part repeating patterns using concrete objects.
Patterns	Create pattern for calendar	K.A.4.2. ~ Sort and classify objects according to one attribute.
Counting	Graph birthdays	K.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures

Graphing	Identify 8 basic colors	K.G.1.1. ~ Identify basic two-dimensional (plane) figures. K.M.1.2. ~ Name the days of the week. K.S.1.1. ~ Describe data represented in simple graphs (using real objects) and pictographs.
Shapes	Identify basic shapes	
Colors	Count calendar days	
Classifying		
Number recognition		

Measurement and Estimation

Content	Skills	Standards
Money	Identify penny and dollar	K.A.2.1. ~ Compare collections of objects to determine more, less, and equal (greater than and less than).
Calendar	Explore measuring length using a variety of objects--paperclips, markers, etc.	K.A.3.0. ~ Interpret and develop mathematical models.
Estimation		K.M.1.0. ~ Apply measurement concepts in practical applications.
Counting to 100	Practice orally counting to 100	K.M.1.4. ~ Estimate length using non-standard units of measure.
More and Less	Compare to determine more, less, equal	K.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.
Number to object matching	Matching numeral to written number sets	K.N.1.1. ~ Read, write, count, and sequence numerals to 20.
Months of the year	Sequencing	K.N.2.0. ~ Apply number operations with real numbers and other number systems. K.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.
		K.S.1.0. ~ Use statistical models to gather, analyze, and display data

to draw conclusions.

Numbers and Seasons

Content	Skills	Standards
Measurement	Measure using inches on a ruler	K.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
Numbers	Write numbers	K.A.3.0. ~ Interpret and develop mathematical models.
Attributes	Match numeral to number word	K.A.3.1. ~ Use concrete objects to model the meaning of the “+” and “-” symbols.
Symbols	Compare attributes by size, shape, and color.	K.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.
Seasons	Order objects using measurable attributes	K.A.4.2. ~ Sort and classify objects according to one attribute.
	Identify symbols for addition and subtraction	K.M.1.0. ~ Apply measurement concepts in practical applications.
	Identify season	K.M.1.5. ~ Compare and order concrete objects by length, height, and weight.
		K.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.
		K.N.1.1. ~ Read, write, count, and sequence numerals to 20.
		K.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.

Place Value

Content	Skills	Standards
Hundred Chart Place Value Collections Adding one more	Introduce hundreds chart Place numbers in correct order on hundreds chart Counting by tens Gather collections Compare attributes of collections Adding one more	K.A.2.1. ~ Compare collections of objects to determine more, less, and equal (greater than and less than). K.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses. K.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. K.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results. K.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.

Graphs and Temperature

Content	Skills	Standards
Graphing Tally Marks Probability Estimation Patterns Measurement	Sort items and graph results Demonstrate use of tally marks Counting by fives Predicting outcomes Estimating Create patterns Measure using a variety of	K.A.3.0. ~ Interpret and develop mathematical models. K.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses. K.A.4.1. ~ Identify and extend two-part repeating patterns using concrete objects. K.A.4.2. ~ Sort and classify objects according to one attribute. K.M.1.0. ~ Apply measurement concepts in practical applications.

Temperature	instruments (balance, measuring cups, rulers, objects in classroom)	K.M.1.3. ~ Identify pennies, nickels, dimes, and quarters using money models.		
Volume				
Classifying			Read and record temperature	K.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.
Money			Recognize individual coins	K.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.
				K.S.1.1. ~ Describe data represented in simple graphs (using real objects) and pictographs.
		K.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.		

100 Days, counting and Measurement

Content	Skills	Standards
Count by ones, twos, fives, and tens	Counting by ones, twos, fives, and tens	K.A.2.1. ~ Compare collections of objects to determine more, less, and equal (greater than and less than).
Match numerals to numbers through 20	Matching numbers	K.M.1.0. ~ Apply measurement concepts in practical applications.
Time	Gathering collections of 100	K.M.1.1. ~ Tell time to the nearest hour using digital and analog clocks.
Measurement	Comparing collections of 100	K.M.1.5. ~ Compare and order concrete objects by length, height, and weight.
Balances	Telling time to the hour	K.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.
	Identifying time words	
	Weighing using balances	
Numbers to 100	Comparing using balances	K.N.1.1. ~ Read, write, count, and sequence numerals to 20.

	Predicting using balances	<p>K.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>K.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>K.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p> <p>K.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.</p>
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Time, Money, and Shapes

Content	Skills	Standards
Measurement	Measuring height, weight, length, width, volume	K.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
Time	Telling time to the hour	K.A.3.0. ~ Interpret and develop mathematical models.
Money	Defining the value of coins	K.A.3.1. ~ Use concrete objects to model the meaning of the “+” and “-” symbols.
Fractions	Demonstrate fractions --one half	K.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.
Geometric solids	Show and name geometric solids	K.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures
Addition	Use objects to demonstrate addition and subtraction	K.G.1.1. ~ Identify basic two-dimensional (plane) figures.
Subtraction	Write number sentences	K.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives.

K.G.2.1. ~ Describe the position of two-dimensional (plane) figures.

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

K.M.1.1. ~ Tell time to the nearest hour using digital and analog clocks.

K.M.1.3. ~ Identify pennies, nickels, dimes, and quarters using money models.

K.M.1.5. ~ Compare and order concrete objects by length, height, and weight.

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

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

K.N.3.1. ~ Solve addition and subtraction problems up to 10 in context.

K.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.

K.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.

Time, Money and Fractions

Content	Skills	Standards
Fractions	Review fraction one half	K.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.

<p>Time</p> <p>Addition sentences</p> <p>Money</p>	<p>Demonstrate fraction one fourth</p> <p>Review time to the hour</p> <p>Show time to the half hour</p> <p>Make addition sentences with numbers equaling 10</p> <p>Teach addition terms plus, equals, sum</p> <p>Introduce term addend</p> <p>Compare value of coins</p>	<p>K.A.2.1. ~ Compare collections of objects to determine more, less, and equal (greater than and less than).</p> <p>K.A.3.0. ~ Interpret and develop mathematical models.</p> <p>K.A.3.1. ~ Use concrete objects to model the meaning of the “+” and “-” symbols.</p> <p>K.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.</p> <p>K.M.1.0. ~ Apply measurement concepts in practical applications.</p> <p>K.M.1.1. ~ Tell time to the nearest hour using digital and analog clocks.</p> <p>K.M.1.3. ~ Identify pennies, nickels, dimes, and quarters using money models.</p> <p>K.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>K.N.1.1. ~ Read, write, count, and sequence numerals to 20.</p> <p>K.N.1.2. ~ Use fraction models to create one half of a whole.</p> <p>K.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>K.N.3.1. ~ Solve addition and subtraction problems up to 10 in context.</p>
<p>Addition and Subtration</p>		

Content	Skills	Standards
Addition	Review addition and terms	K.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
Subtraction	Make subtraction sentences using numbers less than 11	K.A.3.0. ~ Interpret and develop mathematical models.
Prediction	Teach subtraction terms minus, equals, difference	K.A.3.1. ~ Use concrete objects to model the meaning of the “+” and “-” symbols.
Problem Solving	Introduce minuend and subtrahend	K.A.4.0. ~ Describe and use properties and behaviors of relations, functions, and inverses.
	Predict the difference of subtraction sentences	K.M.1.0. ~ Apply measurement concepts in practical applications.
		K.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.
		K.N.1.1. ~ Read, write, count, and sequence numerals to 20.
		K.N.2.0. ~ Apply number operations with real numbers and other number systems.
		K.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.
		K.N.3.1. ~ Solve addition and subtraction problems up to 10 in context.
		K.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.

Teacher: Core Math Grade 1

Year: 2007-2008

Course: Math Grade 1

Readiness Addition and Subtraction

Content	Skills	Standards
Readiness	Creating / translating patterns	1.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
Patterns, numbers, number relationships	Use data from graphs	1.A.2.1. ~ Use the concepts and language of more, less, and equal (greater than and less than) to compare numbers and sets (0 to 20).
Addition and subtraction facts	Comparing, ordering 1-12	1.A.2.2. ~ Solve open addition and subtraction sentences with one unknown (___) using numbers equal to or less than 10.
Strategies for addition facts	Write number sentences, use cubes to compute	1.A.4.1. ~ Identify and extend repeating patterns containing multiple elements using objects and pictures.
Doubles, doubles plus one	Add using a number line. Draw picture to solve a problem.	1.A.4.2. ~ Determine common attributes in a given group and identify those objects that do not belong.
	Counting on / adding in any order	1.N.1.1. ~ Read, write, count, and order numerals to 50.

What is subtraction / addition?

Content	Skills	Standards
Strategies for subtraction facts.	Counting back.	1.A.3.0. ~ Interpret and develop mathematical models.
Fact families.	Computing with a number line.	1.A.3.1. ~ Write number sentences from problem situations using “+” or “-”, and “=” with numbers to ten.
	Writing number sentences.	1.A.4.0. ~ Describe and use properties and behaviors of relations.

	Choosing an operation. Calculating vertical and horizontal addition and subtraction problems.	functions, and inverses. 1.N.2.1. ~ Solve addition and subtraction problems with numbers 0 to 20 written in horizontal and vertical formats using a variety of strategies.
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Geometry and Fractions

Content	Skills	Standards
Geometry Fractions Solid figures Plane shapes	Identifying solid figures (flat surfaces, vertices, cube, cone, sphere, cylinder, and rectangular prism). Identifying plane shapes (triangle, rectangle, circle, squares). Identifying and describing sides, flips and turns. Interpreting symmetry. Identifying and describing equal parts ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$). Interpreting data from charts.	1.A.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures 1.G.1.1. ~ Describe characteristics of plane figures. 1.G.1.2. ~ Sort basic three-dimensional figures. 1.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives. 1.N.1.2. ~ Use unit fraction models to create parts of a whole.

Time

Content	Skills	Standards
Time to the hour and half hour.	Telling and writing time to the hour and half hour.	1.M.1.1. ~ Tell time to the half-hour using digital and analog clocks and order a sequence of events with respect to time. 1.M.1.2. ~ Find a date on the calendar.

Time	Ordering events. Using, analyzing and interpreting data from a schedule. Knowing and identifying the days of the week and months of the year.	
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Count to 100

Content	Skills	Standards
Groups of ten. Number patterns	Examining and interpreting a hundreds chart. Estimating groups of 10. Counting by 10's to 100. Reading and interpreting graphs. Counting by 2's, 5's, 10's. Differentiating before, after, and between. Recognizing odd and even numbers. Identifying ordinal numbers 1-20.	1.A.4.1. ~ Identify and extend repeating patterns containing multiple elements using objects and pictures. 1.G.2.1. ~ Describe proximity of objects in space. 1.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. 1.N.1.1. ~ Read, write, count, and order numerals to 50. 1.S.1.1. ~ Display data in simple picture graphs with units of one and bar graphs with intervals of one.

What Does It Cost ?

Content	Skills	Standards
Money Penny Nickel Dime Quarter Half-Dollar Dollar	Understanding place values (tens and ones). Comparing numbers. Understanding greater, less, and equal to. Predicting number line estimation. Interpreting bar and picture graphs & tallies. Recognizing and counting (pennies, nickels, dimes, quarters, half-dollars and dollars). Interpreting data using a table. Counting sets of coins (half-dollar, dollar, penny, nickel, dime, and quarter).	1.M.1.3. ~ Use different combinations of pennies, nickels, and dimes to represent money amounts to 25 cents. 1.N.1.1. ~ Read, write, count, and order numerals to 50. 1.S.1.2. ~ Answer questions from organized data.

Probability/Statistics

Content	Skills	Standards
Measurement and Probability Length Capacity Weight	Estimating, measuring and comparing weight. Estimating and measuring feet, inches, and centimeters. Understanding and calculating perimeter.	1.M.1.0. ~ Apply measurement concepts in practical applications. 1.M.1.4. ~ Estimate weight using non-standard units of measure. 1.M.1.5. ~ Identify appropriate measuring tools for length, weight, capacity, and temperature. 1.M.1.6. ~ Compare and order concrete objects by temperature and capacity.

Temperature Probability	<p>Identifying cups, pints, quarts, and liters.</p> <p>Comparing weights in pounds, grams, and kilograms.</p> <p>Estimating, predicting and reading the temperature using a thermometer.</p> <p>Analyzing and explaining probability.</p> <p>Choosing and selecting a measurement tool.</p>	<p>1.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>1.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.</p> <p>1.S.2.1. ~ Recognize whether the outcome of a simple event is possible or impossible.</p>
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Addition/subtraction facts to 20

Content	Skills	Standards
Addition facts to 20 Subtraction facts to 20 Addition strategies Subtraction strategies	<p>Identifying double numbers.</p> <p>Tabulating doubles plus 1.</p> <p>Solving multiple step problems.</p> <p>Tabulating doubles minus 1.</p>	<p>1.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>1.N.2.1. ~ Solve addition and subtraction problems with numbers 0 to 20 written in horizontal and vertical formats using a variety of strategies.</p> <p>1.N.3.1. ~ Solve addition and subtraction problems up to 20 in context.</p> <p>1.S.1.2. ~ Answer questions from organized data.</p>

Addition/subtraction-2 digit

Content	Skills	Standards
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<p>2 digit subtraction</p> <p>Re-grouping</p> <p>Adding 3 numbers</p> <p>2 digit addition</p>	<p>Adding groups of 10's.</p> <p>Analyzing, predicting and solving using re-grouping.</p> <p>Interpreting graphs.</p> <p>Adding 3 numbers.</p> <p>Adding and subtracting 2 digit numbers.</p>	<p>1.A.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures</p> <p>1.N.3.1. ~ Solve addition and subtraction problems up to 20 in context.</p> <p>1.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p> <p>1.S.1.2. ~ Answer questions from organized data.</p>
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Teacher: Core Math Grade 2

Year: 2007-2008

Course: Math Grade 2

Understanding Basic Addition and Subtraction

Content	Skills	Standards
Two groups can be combined and then counted to see how many objects there are in all.	Join two groups together to find how many in all.	2.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.
Joining groups can be shown in an addition sentence that uses the plus symbol and the equal sign.	Join two groups together and write an addition sentence to tell how many in all.	2.A.2.2. ~ Solve open addition and subtraction sentences with one unknown (\square) using numbers equal to or less than 20.
Addition can be used to represent joining situations.	Solve a story problem by writing an addition sentence.	2.A.2.3. ~ Balance simple addition and subtraction equations using sums up to 20.
When one part is removed from a whole, the remaining part can be counted to see how many remain.	Take away a number of objects from a group and count to find how many are left.	2.A.3.1. ~ Write and solve number sentences from word problems.
Two groups can be compared by counting the leftovers after doing one-to-one matching.	Compare two groups to find out how many more or how many fewer.	
Subtraction can be used to represent both separating and comparing situations.	Write subtraction sentences to solve both separation and comparison problems.	
Addition and subtraction can both be useful in answering joining, separating, and comparing questions.	Solve problems by choosing addition or subtraction.	
Changing the order of the addends does not change the sum.	Use the commutative property to find sums.	
	Recognize facts that have sums of 10.	

<p>10 is an important benchmark in our numeration system, so other numbers can be thought of in relation to what we know about the number 10.</p> <p>Fact families use the same three numbers and can be used to show how addition and subtraction are related.</p> <p>If you know any two of the three numbers in an addition sentence, you can find the missing number.</p> <p>Some real-world problems can be solved using know concepts, skills, and strategies.</p>	<p>Write the addition and subtraction sentences that make up a fact family.</p> <p>Use counters to find the missing addend in an addition sentence,</p> <p>Review and apply key concepts, skills, and strategies learned in the chapter and in previous grades.</p>	
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Two-digit addition

Content	Skills	Standards
<p>10 ones can be regrouped to make 1 ten.</p> <p>In addition, 10 ones can be regrouped to make 1 ten This step is recorded above the tens column in order to help you reach the final sum.</p> <p>In the traditional algorithm, ones and tens are added separately beginning with the ones. Regrouping is needed when there</p>	<p>Regroup 10 ones as 1 tens when adding.</p> <p>Add a one-digit number to a two-digit number, regroup, and record the process in the vertical format.</p> <p>Use the standard algorithm to add 2 two-digit numbers with and without regrouping.</p> <p>Add two money amounts (less than \$1.00) using paper and</p>	<p>2.A.2.1. ~ Use concepts of equal to, greater than, and less than to compare numbers (0-100).</p> <p>2.A.2.2. ~ Solve open addition and subtraction sentences with one unknown (\square) using numbers equal to or less than 20.</p> <p>2.A.2.3. ~ Balance simple addition and subtraction equations using sums up to 20.</p> <p>2.A.3.1. ~ Write and solve number sentences from word problems.</p> <p>2.A.4.0. ~ Describe and apply the properties and behaviors of relations, functions and inverses.</p>

<p>are 10 or more ones on all.</p> <p>The standard algorithm for adding 2 digit numbers proceeds from right to left. Ones are added first, with 10 or more ones regrouped as 1 tens and recorded over the tens place. Then the new ten is added to the other tens in the problem.</p> <p>Adding money amounts less than \$1.00 involves using the same algorithm as that used for adding tens and ones, the only new skill is the recording of the cent symbol.</p> <p>Three numbers can be added in any order.</p> <p>Estimates of a sum can be made in many different ways.</p> <p>Numbers can be added using a variety of methods, the choice of methods is often based on the addends.</p>	<p>pencil.</p> <p>Add 3 two digit numbers with paper and pencil.</p> <p>Estimate a sum as a multiple of 10 and compare the estimate to the exact sum.</p> <p>Recognize and use different ways to add two-digit numbers.</p> <p>Solve a problem by estimating, checking the estimate, and then revising the estimate until the final answer is reached.</p>	<p>2.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>2.N.2.1. ~ Solve two-digit addition and subtraction problems written in horizontal and vertical formats using a variety of strategies.</p> <p>2.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p>
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Fact Strategies for Addition and Subtraction

Content	Skills	Standards
<p>Counting on is a useful strategy for adding 1,2, or 3 to another number.</p> <p>Doubles facts are easy to</p>	<p>Count on to add 1, 2, or 3 to another number.</p> <p>Recognize doubles as strategy for remembering sums.</p>	<p>2.A.2.1. ~ Use concepts of equal to, greater than, and less than to compare numbers (0-100).</p> <p>2.A.3.0. ~ Interpret and develop mathematical models.</p> <p>2.A.4.1. ~ Find and extend growing patterns using symbols, objects,</p>

<p>remember.</p> <p>If you know a doubles fact, it can help you to figure out a doubles-plus-1 fact.</p> <p>Three or more numbers can be grouped and added in any order.</p> <p>Making a group of 10 can change a difficult addition fact to one that is easier to add mentally.</p> <p>Writing a number sentence is one strategy that can be used to solve a problem.</p> <p>Moving to the left on a number line one way to show subtraction.</p> <p>Doubles facts can be used to find differences for their related subtraction facts.</p> <p>An addition fact can be used to find the difference in a related subtraction fact.</p> <p>Pictures frequently contain important information that helps to solve problems.</p> <p>Some real-world problems can be solved using known concepts, skills, and strategies.</p>	<p>Use doubles facts to learn doubles-plus-1 facts.</p> <p>Find the sum of three addends.</p> <p>Find sums by making a 10 when adding a 9.</p> <p>Find sums by making a 10 when adding a 7 or an 8.</p> <p>Solve problems by writing number sentences.</p> <p>Use a number line to count back 1 or 2.</p> <p>Find differences by using doubles facts.</p> <p>Find differences by using known addition facts.</p> <p>Use data in pictures to help find missing numbers in number sentences.</p> <p>Review and apply key concepts, skills, and strategies learned in previous chapters.</p>	<p>and numbers.</p> <p>2.A.4.2. ~ Determine likenesses and differences between sets.</p> <p>2.N.2.0. ~ Apply number operations with real numbers and other number systems.</p>
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Place Value to 100 / Money

Content	Skills	Standards
<p>The decade numbers to 100 are built on groups of tens with oral names that are similar to, but not the same as, the number of tens counted.</p>	<p>Count groups of ten, up to 10 tens, and write how many.</p>	<p>2.A.4.1. ~ Find and extend growing patterns using symbols, objects, and numbers.</p>
<p>In a two-digit number, the tens digit tells how many groups of ten and the ones digit tells the number on ones.</p>	<p>Use groups of tens and ones to show a given two-digit number.</p>	<p>2.M.1.3. ~ Determine the value of a collection of like and unlike coins with a value up to \$1.00.</p>
<p>Numbers 21 through 99 are each written by joining two number words with a hyphen. Numbers 1 - 20 are each represented by a unique number word.</p>	<p>Read and write number words for give numbers.</p>	<p>2.M.1.4. ~ Represent and write the value of money using the “¢” sign and in decimal form using the “\$” sign.</p>
<p>Writing down all of the possible ways of doing something is sometimes a good way to solve a problem.</p>	<p>Solve a problem by making an organized list.</p>	<p>2.N.1.1. ~ Read, write, count, and sequence numerals to 100.</p>
<p>For any 2 two-digit numbers, the one with more tens is the greater number, if the 2 numbers have the same number of tens, then the number with more ones is greater.</p>	<p>Compare numbers using the greater-than, less-than, and equal-to symbols.</p>	
<p>The ones digit of a two-digit number determines which multiple of 10 is closet to that number.</p>	<p>Use a number line to determine the closest ten.</p>	
<p>Except for decade changes, a number is increased of decreased by 1 when the ones digit is</p>	<p>Identify and write numbers that are one before, one after, or between given numbers.</p>	
	<p>Recognize and extend skip-counting patterns.</p>	
	<p>Identify numbers as odd or even.</p>	
	<p>Used ordinals through twentieth to identify position.</p>	
	<p>Identify the value of a group of dimes, nickels, and pennies through 99 cents.</p>	
	<p>Count a collection of coins that</p>	

<p>changed by 1.</p> <p>Skip counting on a hundred chart makes visual patterns as well as numerical patterns.</p> <p>Even numbers can be broken into two equal parts: odd numbers cannot.</p> <p>Ordinal positions in a row or list can be determined by counting, and the ordinal words are similar to the counting words.</p> <p>To count a mixed group of coins, skip count by the greatest coin value present, then shift to skip counting by the next-greatest coin value present, and then keep going until no coins remain.</p>	<p>includes half-dollars, quarters, dimes, nickels, and pennies.</p> <p>Compare the values of two sets of coins.</p> <p>Show the same amount of money using different set of coins.</p> <p>Count on from the price of an object up to the greater amount paid in order to make change.</p> <p>Identify the value of a dollar bill and a dollar coin.</p>	
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Mental Math: Addition and Subtraction

Content	Skills	Standards
<p>Adding a multiple of 10 to a two-digit number changes only the tens digit of that number.</p> <p>When adding ones to a two-digit number, you may or may not have enough ones altogether to make another ten.</p> <p>When adding 2 two-digit numbers, you may or may not have enough</p>	<p>Add a multiple of 10 to a two-digit number using models or mental math.</p> <p>When adding ones to a two-digit number, you may or may not have enough ones altogether to make another ten.</p> <p>Estimate the sum of 2 digit</p>	<p>2.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.</p> <p>2.A.2.1. ~ Use concepts of equal to, greater than, and less than to compare numbers (0-100).</p> <p>2.A.2.2. ~ Solve open addition and subtraction sentences with one unknown (\square) using numbers equal to or less than 20.</p> <p>2.A.2.3. ~ Balance simple addition and subtraction equations using sums up to 20.</p>

<p>ones altogether to make another ten.</p> <p>An estimate of a two-digit sum can be made by adding the tens and ten deciding whether the ones will increase the sum beyond the next multiple of ten.</p> <p>Subtracting a multiple of 10 from a two-digit number changes only the tens digit of the number.</p> <p>When subtracting one two-digit number from another, you may or may not have to change a ten to 10 tens.</p> <p>An estimate of a two-digit difference can be made by subtracting tens and ten considering the ones,</p> <p>For the sum o 2 two-digit numbers to be a multiple of 10, the ones digits of the numbers must have a sum of zero or ten.</p> <p>Repeatedly adding and subtracting the same number results in a repeating pattern in both the ones digit and the tens digit.</p> <p>You can count up from the given part to find the missing part.</p> <p>When solving problems, it is important to always look back at an answer and decide if it makes</p>	<p>numbers.</p> <p>Subtract a multiple of 10 from a two-digit number using models or mental math,</p> <p>Determine whether the difference between a multiple of 10 and another amount is more or less than a given multiple of 10.</p> <p>Solve a problem by finding pairs of numbers, the sums of which are a give multiple of 10.</p> <p>Discover a numeric pattern made by repeatedly adding or subtracting the same number.</p> <p>Find the missing part of 100 when the given part is a multiple of 5 or 10.</p> <p>"Look back and check" is a strategy that can help confirm the solution to a problem.</p>	<p>2.A.3.1. ~ Write and solve number sentences from word problems.</p> <p>2.N.2.1. ~ Solve two-digit addition and subtraction problems written in horizontal and vertical formats using a variety of strategies.</p> <p>2.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>2.S.2.1. ~ List possible outcomes of a simple event and make predictions about which outcome is more or less likely to occur.</p>
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sense.

Two-digit Addition

Content	Skills	Standards
<p>10 ones can be regrouped to make 1 ten.</p> <p>In addition, 10 ones can be regrouped to make 1 ten This step is recorded above the tens column in order to help you reach the final sum.</p> <p>In the traditional algorithm, ones and tens are added separately beginning with the ones. Regrouping is needed when there are 10 or more ones on all.</p> <p>The standard algorithm for adding 2 digit numbers proceeds from right to left. Ones are added first, with 10 or more ones regrouped as 1 tens and recorded over the tens place. Then the new ten is added to the other tens in the problem.</p> <p>Adding money amounts less than \$1.00 involves using the same algorithm as that used for adding tens and ones, the only new skill is the recording of the cent symbol.</p> <p>Three numbers can be added in</p>	<p>Regroup 10 ones as 1 tens when adding.</p> <p>Add a one-digit number to a two-digit number, regroup, and record the process in the vertical format.</p> <p>Use the standard algorithm to add 2 two-digit numbers with and without regrouping.</p> <p>Add two money amounts (less than \$1.00) using paper and pencil.</p> <p>Add 3 two digit numbers with paper and pencil.</p> <p>Estimate a sum as a multiple of 10 and compare the estimate to the exact sum.</p> <p>Recognize and use different ways to add two-digit numbers.</p> <p>Solve a problem by estimating, checking the estimate, and then revising the estimate until the final answer is reached.</p>	<p>2.A.2.1. ~ Use concepts of equal to, greater than, and less than to compare numbers (0-100).</p> <p>2.A.2.2. ~ Solve open addition and subtraction sentences with one unknown (\square) using numbers equal to or less than 20.</p> <p>2.A.2.3. ~ Balance simple addition and subtraction equations using sums up to 20.</p> <p>2.A.3.1. ~ Write and solve number sentences from word problems.</p> <p>2.A.4.0. ~ Describe and apply the properties and behaviors of relations, functions and inverses.</p> <p>2.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>2.N.2.1. ~ Solve two-digit addition and subtraction problems written in horizontal and vertical formats using a variety of strategies.</p> <p>2.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p>

<p>any order.</p> <p>Estimates of a sum can be made in many different ways.</p> <p>Numbers can be added using a variety of methods, the choice of methods is often based on the addends.</p>		
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Subtraction With Two-digit Numbers

Content	Skills	Standards
<p>1 ten can be regrouped as 10 ones.</p> <p>In symbolic subtraction, 1 ten sometimes needs to be regrouped to make 10 ones.</p> <p>In traditional subtraction algorithm, ones and tens are subtracted separately, beginning with the ones. Regrouping is needed when there are not enough ones in the greater number (the minuend).</p> <p>Writing a number sentence is one strategy that can be used to solve a problem.</p> <p>Subtracting money amounts uses the same process as that used for subtracting whole numbers.</p> <p>Subtraction and addition are</p>	<p>Regroup 1 ten as 10 ones when subtracting.</p> <p>Subtracting a one-digit number from a two-digit number with or without regrouping using the standard algorithm.</p> <p>Use the standard subtraction algorithm to subtract a two-digit number from another two-digit number.</p> <p>Solve problems by writing number sentences.</p> <p>Subtract amounts of money less than \$1.00 with and without grouping.</p> <p>Relate addition to subtraction by using one operation to check the</p>	<p>2.A.2.0. ~ Use a variety of algebraic concepts and methods to solve equations and inequalities.</p> <p>2.A.2.2. ~ Solve open addition and subtraction sentences with one unknown (\square) using numbers equal to or less than 20.</p> <p>2.A.2.3. ~ Balance simple addition and subtraction equations using sums up to 20.</p> <p>2.M.1.3. ~ Determine the value of a collection of like and unlike coins with a value up to \$1.00.</p> <p>2.M.1.4. ~ Represent and write the value of money using the “¢” sign and in decimal form using the “\$” sign.</p> <p>2.N.2.1. ~ Solve two-digit addition and subtraction problems written in horizontal and vertical formats using a variety of strategies.</p> <p>2.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>2.N.3.1. ~ Solve addition and subtraction problems up to 100 in</p>

<p>inversely related, so one can "undo" the other.</p> <p>An estimate of a difference can be made in many different ways.</p> <p>Numbers can be subtracted using a variety of methods; the choice of methods is often based on the numbers themselves.</p>	<p>other.</p> <p>Choose an appropriate method for subtracting.</p>	<p>context.</p> <p>2.S.1.2. ~ Represent data sets in more than one way.</p> <p>2.S.2.1. ~ List possible outcomes of a simple event and make predictions about which outcome is more or less likely to occur.</p>
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Fractions and Geometry

Content	Skills	Standards
<p>Solids comprise flat surfaces, vertices, and edges.</p> <p>The flat surfaces of solid figures are plane shapes.</p> <p>The flat surfaces on a solid figure can be "unfolded" to form a complex two dimensional, model of that figure.</p> <p>A large shape can be made from more than one smaller shape. Any given polygon has the same number of sides as angles.</p> <p>Shapes are congruent if they are the same shape and the same size. Two shapes can be congruent even if they do not share the same orientation.</p>	<p>Identify solid figures (cone, cube, cylinder, pyramid, rectangular prism, sphere) and count their flat surfaces, vertices, and edges.</p> <p>match a geometric solid to an outline of one of its flat surfaces and match that flat surface to a plane shape.</p> <p>Solve problems by matching solid figures with their two dimensional nets.</p> <p>Recognize and name trapezoids, parallelograms, and hexagons and identify the number of sides and angles in a polygon.</p> <p>Identify and create congruent figures,.</p>	<p>2.A.3.1. ~ Write and solve number sentences from word problems.</p> <p>2.A.4.0. ~ Describe and apply the properties and behaviors of relations, functions and inverses.</p> <p>2.A.4.1. ~ Find and extend growing patterns using symbols, objects, and numbers.</p> <p>2.G.1.0. ~ Use deductive and inductive reasoning to recognize and apply properties of geometric figures</p> <p>2.G.1.1. ~ Use the terms side and vertex (corners) to identify plane and solid figures.</p> <p>2.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives.</p> <p>2.G.2.1. ~ Identify geometric figures regardless of position and orientation in space.</p> <p>2.M.1.0. ~ Apply measurement concepts in practical applications.</p>

<p>Slides, flips, and turns can be used to change an objects orientation in space.</p> <p>Symmetrical figures have two congruent halves.</p> <p>Eliminating wrong choices can help you find the right answer.</p> <p>"Equal parts" means that each part is the same.</p> <p>A unit fraction names one of a number of equal parts into which a shape or region has been divided.</p> <p>The bottom number of a fraction tells the munber of equal parts. The top number tells how many equal parts being named.</p> <p>halves, thirds, and fourths are good "benchmarks" to use when estimating fractions of regions.</p> <p>Fractions can be used to name part of a set as well as part of a region</p> <p>Some real world problems can bre solved using know concepts, skills, and strategies.</p>	<p>Perform of slide, flip, or turn on an object and identify the results.</p> <p>Identify and create symmetrical shapes.</p> <p>Solve a problem by using logical reasoning.</p> <p>Determine whether a shape has been divided into equal or unequal parts; identify halves, thirds, and fourths.</p> <p>Identify and show a unit fraction of a region.</p> <p>Estimated the fraction for a given part of a region.</p> <p>Identify and show fractions of a set of objects.</p>	<p>2.N.1.2. ~ Identify and represent fractions as parts of a group.</p>
<p>Probability and Measurement</p>		
<p>Content</p>	<p>Skills</p>	<p>Standards</p>

<p>The length of an object can be described by comparing it to a defined unit of length, such as a paper clip.</p> <p>Inches and feet are standard units used to measure length.</p> <p>Inches, feet, and yards are standard units used to measure length.</p> <p>Centimeters and meters are standard units used to measure length,</p> <p>The distance around a shape (its perimeter) can be measured by combining the measurements of the sides of the shape.</p> <p>The capacity of a container can be described by comparing it to that of a defined unit of capacity.</p> <p>Cups, pints, and quarts are standard units used to measure capacity.</p> <p>A liter is a standard metric unit used to measure capacity.</p> <p>You can measure the volume of a box by counting the cubic units needed to fill it.</p> <p>You can tell how heavy or light an object is by using a balance scale</p>	<p>exploring length and capacity comparing units of weight comparing units of temperature exploring probability</p> <p>Measure the lengths and heights of objects using nonstandard units.</p> <p>Estimate and measure the lengths or heights of objects in inches or feet, using a ruler.</p> <p>Estimate and measure the weights of different objects by comparing each of them to a nonstandard unit of weight.</p> <p>Compare and estimate the weights of objects in ounces and pounds.</p> <p>Compare and estimate the masses of objects in grams and kilograms.</p> <p>Show, read, and write temperatures shown on Fahrenheit and Celsius thermometers.</p> <p>Record and analyze data collected from performing an experiment.</p> <p>Solve multiple-step problems involving addition and subtraction,</p>	<p>2.M.1.7. ~ Locate and name concrete objects that are about the same length, height, weight, capacity, and temperature as a given concrete object.</p> <p>2.N.3.0. ~ Develop conjectures, predictions, or estimations to solve problems and verify or justify the results.</p> <p>2.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.</p> <p>2.S.2.1. ~ List possible outcomes of a simple event and make predictions about which outcome is more or less likely to occur.</p>
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<p>to measure its weight.</p> <p>Ounces and pounds are standard units used to measure weight.</p> <p>Grams and kilograms are standard metric units used to measure mass.</p> <p>Temperature is a measure of how hot or cold something is. Some thermometers use the Fahrenheit scale, and others use the Celsius scale.</p>		
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Numbers to 1,000

Content	Skills	Standards
<p>10 tens make 100, and 10 hundreds make 1,000.</p> <p>Each digit in a three-digit number tells how many hundreds, tens, or ones are in that number.</p> <p>Adding together the values of the three digits in a three-digit number produces the total value of the number.</p> <p>Adding or subtracting hundreds or tens is similar to adding or subtracting single-digit numbers.</p> <p>Numbers are compared by beginning with the place of</p>	<p>Count by hundreds to 1,000.</p> <p>Count sets grouped in hundreds, tens, and ones.</p> <p>Read and write three-digit numbers using expanded form, standard form, and number words.</p> <p>Add and subtract multiples of 10 or 100 to and from a three-digit number without regrouping.</p> <p>Compare three-digit numbers using the symbols $>$, $<$, and $=$.</p> <p>Counting on is a strategy that can be used for solving missing-</p>	<p>2.G.2.0. ~ Use properties of geometric figures to solve problems from a variety of perspectives.</p> <p>2.N.2.0. ~ Apply number operations with real numbers and other number systems.</p> <p>2.S.1.0. ~ Use statistical models to gather, analyze, and display data to draw conclusions.</p> <p>2.S.1.1. ~ Use interviews, surveys, and observations to gather data.</p> <p>2.S.2.0. ~ Apply the concepts of probability to predict events/outcomes and solve problems.</p> <p>2.S.2.1. ~ List possible outcomes of a simple event and make predictions about which outcome is more or less likely to occur.</p>

<p>greatest value, the place farthest to the left, and then moving to the right as far as is needed.</p> <p>Use counting on to find missing parts of 1 000.</p> <p>Data in number form can be organized on charts for easy interpretation.</p> <p>The number before a given number is one less, and the number after is one more.</p> <p>Numbers are compared by beginning with place of greatest value, the place farthest to the left, and then moving to the right as far as is needed.</p> <p>Number patterns can often be discovered by adding or subtracting the same amount repeatedly.</p> <p>Some real-world problems can be solved using known concepts, skills, and strategies.</p>	<p>addend problems.</p> <p>Use data from a chart to solve problems.</p> <p>Identify numbers that are before, after, or between given numbers.</p> <p>Order three-digit numbers from greatest to least and from least to greatest.</p> <p>Continue number patterns using three-digit numbers and skip count by different amounts.</p> <p>Review and apply key concepts, skill, and strategies learned in this and previous chapters.</p>	
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Time, Data and Graphs

Content	Skills	Standards
<p>Telling time</p> <p>Data / Graphs (using data/graphs)</p>	<p>Telling time to 5 minutes (digital and analog)</p>	<p>2.M.1.1. ~ Tell time to the minute using digital and analog clocks and relate time to daily events.</p>

<p>to solve problems)</p> <p>Measurement / Probability</p>	<p>Reporting time to after the hour</p> <p>Telling time before the hour</p> <p>Estimating time</p> <p>Calculating elapsed time</p> <p>Understanding AM and PM</p> <p>Using a calendar to solve problems</p> <p>Recognize equivalent times</p> <p>Record data from a survey</p> <p>Create a table from a survey</p> <p>Use/read venn diagram</p> <p>Read and interpret pictographs, bar graphs, line plots and coordinate graphs</p> <p>Measure objects with non-standard units such as cubes, paper clips, etc...</p> <p>Compare the capacity/volume of something using a scale and non-standard units</p> <p>Solve everyday problems by measuring objects with standard units (example: measure a room to determine the amount of carpet</p>	<p>2.M.1.2. ~ Use the calendar to solve problems.</p> <p>2.M.1.5. ~ Use whole number approximations for capacity using non-standard units of measure.</p> <p>2.M.1.6. ~ Solve everyday problems by measuring length to the nearest inch or foot.</p> <p>2.S.1.3. ~ Answer questions about and generate explanations of data given in tables and graphs.</p>
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Teacher: Core Math Grade 3

Year: 2007-2008

Course: Math Grade 3

Place Value		
Content	Skills	Standards
Place value Money Ordering and comparing numbers(,=) Estimation and rounding	Order/compare whole numbers less than ten thousand. Count money and make change Select appropriate symbols to compare numbers. Use Estimation to solve problems Round whole numbers to the nearest ten/hundred	3.A.1.2. ~ Identify special properties of 0 and 1 with respect to arithmetic operations (addition, subtraction, multiplication). 3.A.2.1. ~ Select appropriate relational symbols (, =) to compare numbers. 3.A.2.2. ~ Solve problems involving addition and subtraction of whole numbers. 3.A.4.1. ~ Extend linear patterns. 3.M.1.2. ~ Count, compare, and solve problems using a collection of coins and bills. 3.N.1.1. ~ Place in order and compare whole numbers less than 10,000, using appropriate words and symbols. 3.N.3.1. ~ Round two-digit whole numbers to the nearest tens, and three-digit whole numbers to the nearest hundreds.

Place Value		
Content	Skills	Standards
Place value Ordering and comparing	Order/compare whole numbers less than ten thousand.	3.A.1.2. ~ Identify special properties of 0 and 1 with respect to arithmetic operations (addition, subtraction, multiplication).

numbers(,=)	Create/translate patterns	3.A.2.1. ~ Select appropriate relational symbols (, =) to compare numbers.
Estimation and rounding	Count money and make change	3.A.2.2. ~ Solve problems involving addition and subtraction of whole numbers.
	Select appropriate symbols to compare numbers	3.A.4.1. ~ Extend linear patterns.
	Round whole numbers to the nearest ten/hundred	3.M.1.2. ~ Count, compare, and solve problems using a collection of coins and bills.
	Use Estimation to solve problems	3.N.1.1. ~ Place in order and compare whole numbers less than 10,000, using appropriate words and symbols.
		3.N.3.1. ~ Round two-digit whole numbers to the nearest tens, and three-digit whole numbers to the nearest hundreds.

Addition and Subtraction

Content	Skills	Standards
Addition and subtraction facts properties.	Use whole numbers to solve equations involving addition/subtraction.	3.A.1.1. ~ Explain the relationship between repeated addition and multiplication.
Fact Families	Identify addition properties	3.A.1.2. ~ Identify special properties of 0 and 1 with respect to arithmetic operations (addition, subtraction, multiplication).
Multiplication factors 0-2	Apply Fact families	3.A.2.2. ~ Solve problems involving addition and subtraction of whole numbers.
Estimation	Explain the relationship between repeated addition and multiplication	3.A.4.2. ~ Use number patterns and relationships to learn basic facts.
	Use Estimation to solve problems	3.N.3.1. ~ Round two-digit whole numbers to the nearest tens, and three-digit whole numbers to the nearest hundreds.

Adding and Subtracting Greater Numbers

Content	Skills	Standards
Adding and subtracting greater numbers	Add/subtract whole numbers up to three digits.	3.A.2.2. ~ Solve problems involving addition and subtraction of whole numbers.
Multi-step story problems	Use number patterns and relationships to learn basic multiplication facts up to 3's and 4's	3.A.4.2. ~ Use number patterns and relationships to learn basic facts.
Multiplication concepts	Use Estimation to solve problems	3.N.2.1. ~ Add and subtract whole numbers up to three digits and multiply two digits by one digit.
	Create/solve story problems	3.N.3.1. ~ Round two-digit whole numbers to the nearest tens, and three-digit whole numbers to the nearest hundreds.

Multi-operational Story Problems

Content	Skills	Standards
Multi-operational story problems in addition and subtraction	Create/solve story problems	3.A.2.2. ~ Solve problems involving addition and subtraction of whole numbers.
Basic Algebraic Expression	Construct number sentences and equations	3.A.4.2. ~ Use number patterns and relationships to learn basic facts.
Multiplication concepts from 5-6	Compare numbers and expressions using relational symbols.	3.N.2.1. ~ Add and subtract whole numbers up to three digits and multiply two digits by one digit.
	Use patterns and numbers to learn basic multiplication facts up to 5's and 6's.	

Time and Data

Content	Skills	Standards
Time (elapsed, to minute, $\frac{1}{2}$, $\frac{1}{4}$ hour). Data, Graphs, and Charts Multiplication concepts	Convert/compare time in minute units of measure. Collect questions from data represented in graphs/charts. Create different types of graphs/charts Use number patterns and relationships to learn basic facts up to 7's and 8's	3.A.4.2. ~ Use number patterns and relationships to learn basic facts. 3.M.1.1. ~ Read and tell time before and after the hour within five-minute intervals on an analog clock. 3.N.1.2. ~ Find multiples of whole numbers 2, 5, and 10. 3.N.2.1. ~ Add and subtract whole numbers up to three digits and multiply two digits by one digit. 3.S.1.1. ~ Ask and answer questions from data represented in bar graphs, pictographs and tally charts. 3.S.1.2. ~ Gather data and use the information to complete a scaled and labeled graph.

Geometry

Content	Skills	Standards
Geometry. Multiplication concepts	Identify properties of 2-D and 3-D shapes. Describe polygons, angles, points, lines and line segments. Demonstrate similarity and congruent figures. Use number patterns to learn basic facts up to 10's	3.A.4.2. ~ Use number patterns and relationships to learn basic facts. 3.G.1.1. ~ Recognize and compare the following plane and solid geometric figures: square, rectangle, triangle, cube, sphere, and cylinder. 3.G.1.2. ~ Identify points, lines, line segments, and rays. 3.G.2.1. ~ Demonstrate relationships between figures using similarity and congruence. 3.N.1.2. ~ Find multiples of whole numbers 2, 5, and 10.

Fractions and Decimals

Content	Skills	Standards
<p>Fractions and Decimals</p> <p>Measuring length in Feet and Inches.</p> <p>Measuring in Feet, Yards, and Miles</p> <p>Multiplying Greater numbers</p>	<p>Name/write fractions from visual representations.</p> <p>Add and Subtract Fractions</p> <p>Measuring using objects and inches.</p> <p>Estimate and Measure lengths in feet and inches, and change measures given in feet and inches.</p> <p>Change measures among inches, feet, and yards</p> <p>Choose the best unit of measure for a given object, and compare measures.</p> <p>Multiply 3 digits by 1 digit</p>	<p>3.A.3.1. ~ Use the relationship between multiplication and division to compute and check results.</p> <p>3.M.1.3. ~ Identify U.S. Customary units of length (feet), weight (pounds), and capacity (gallons).</p> <p>3.M.1.4. ~ Select appropriate units to measure length (inch, foot, mile, yard); weight (ounces, pounds, tons); and capacity (cups, pints, quarts, gallons).</p> <p>3.M.1.5. ~ Measure length to the nearest 1/2 inch.</p> <p>3.N.1.3. ~ Name and write fractions from visual representations.</p> <p>3.N.2.1. ~ Add and subtract whole numbers up to three digits and multiply two digits by one digit.</p>

Continue with Fractions and Decimals

Content	Skills	Standards
<p>Continue with fractions and decimals</p> <p>Continue with multiplying and</p>	<p>Convert fractions to decimals/mixed numbers.</p> <p>Create a visual representation of</p>	<p>3.A.3.1. ~ Use the relationship between multiplication and division to compute and check results.</p> <p>3.M.1.4. ~ Select appropriate units to measure length (inch, foot, mile, yard); weight (ounces, pounds, tons); and capacity (cups, pints, quarts,</p>

dividing with greater numbers	fractions. Compare and order decimals expressed as tenths/hundredths. Add/subtract decimals. Multiply 3 digit numbers by 1 number	gallons). 3.M.1.5. ~ Measure length to the nearest 1/2 inch. 3.N.1.3. ~ Name and write fractions from visual representations.
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Measurement and Probability

Content	Skills	Standards
Measurement using probability, capacity, weight, temperature.	Identify U.S. customary units of length. Convert/compare U.S. customary units of measure Describe events as certain or impossible	3.A.1.2. ~ Identify special properties of 0 and 1 with respect to arithmetic operations (addition, subtraction, multiplication). 3.M.1.3. ~ Identify U.S. Customary units of length (feet), weight (pounds), and capacity (gallons). 3.M.1.4. ~ Select appropriate units to measure length (inch, foot, mile, yard); weight (ounces, pounds, tons); and capacity (cups, pints, quarts, gallons). 3.M.1.5. ~ Measure length to the nearest 1/2 inch. 3.S.2.1. ~ Describe events as certain or impossible.

Teacher: Core Math Grade 4

Year: 2007-2008

Course: Math Grade 4

Addition and Subtraction		
Content	Skills	Standards
Single digit addition Single digit subtraction	Review basic addition facts through 18. Review basic subtraction facts through 18.	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division. 4.A.1.2 ~ Students are able to recognize and use the commutative property of addition and multiplication. 4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another. 4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true. 4.A.2.2. ~ Simplify a two-step equation using whole numbers. 4.A.3.1. ~ Write and solve number sentences that represent one-step word problems using whole numbers. 4.A.4.1. ~ Solve problems involving pattern identification and completion of patterns. 4.N.3.1. ~ Estimate sums and differences in whole numbers and money to determine if a given answer is reasonable.
Addition and Subtraction		
Content	Skills	Standards

Two Digit Numbers	Compute addition and subtraction problems with two digits.	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division.
Two Digit Numbers With and Without Grouping	Practice problems with and without regrouping.	4.A.1.2 ~ Students are able to recognize and use the commutative property of addition and multiplication.
Problem Solving	Seek out key words to indicate processes of problem solving.	4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another.
Place Value (Ones through Millions)	Identify the correct place value for numbers through millions.	4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true.
Comparing and Ordering Numbers	Compare and order numbers through millions.	4.A.2.2. ~ Simplify a two-step equation using whole numbers.
		4.A.3.1. ~ Write and solve number sentences that represent one-step word problems using whole numbers.
		4.A.4.1. ~ Solve problems involving pattern identification and completion of patterns.
		4.M.1.2. ~ Solve problems involving money including unit conversion.
		4.N.1.1. ~ Read, write, order, and compare numbers from .01 to 1,000,000.
		4.N.1.2. ~ Find multiples of whole numbers through 12.
		4.N.3.1. ~ Estimate sums and differences in whole numbers and money to determine if a given answer is reasonable.

Addition and Subtraction and Geometry

Content	Skills	Standards
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Column Addition	Use basic addition facts to add in columns.	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division.
Algebraic Expressions	Evaluate algebraic expressions by using variables.	4.A.1.2 ~ Students are able to recognize and use the commutative property of addition and multiplication.
Money and Decimals	Recognize the similarities between money and decimals.	4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another.
Sums and Differences	Estimate by rounding sums and differences.	4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true.
Line, Points and Rays	Identify and define points, lines, and rays.	4.A.2.2. ~ Simplify a two-step equation using whole numbers.
Intersecting and Perpendicular Lines	Define and differentiate intersecting and perpendicular lines.	4.A.4.1. ~ Solve problems involving pattern identification and completion of patterns.
Line Segments	Compare and contrast the meanings of lines, line segments and rays.	4.G.1.1. ~ Identify the following plane and solid figures: pentagon, hexagon, octagon, pyramid, rectangular prism, and cone.
Area and Perimeter	Find the perimeter and area of any given polygon.	4.G.1.2. ~ Identify parallel, perpendicular, and intersecting lines.
	Classify triangles and quadrilaterals	4.G.2.1. ~ Compare geometric figures using size, shape, orientation, congruence, and similarity.
	Identify geometric terms relating the circles.	4.G.2.2. ~ Identify a slide (translation) of a given figure.
	Identify congruent figures, and determine the slide, or turn image of a figure.	4.M.1.2. ~ Solve problems involving money including unit conversion.
	Identify and make symmetrical figures. and draw a line or lines of	4.N.3.1. ~ Estimate sums and differences in whole numbers and money to determine if a given answer is reasonable.

symmetry.

Simple Multiplication and Division

Content	Skills	Standards
Simple Multiplication (Single Digit)	Review double facts and simple repeated addition exercises.	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division.
Simple Division (Single Digit)	Review how to find a pattern by looking at the first several numbers of the pattern and finding a rule that fits.	4.A.1.2 ~ Students are able to recognize and use the commutative property of addition and multiplication.
Money Values		4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another.
Time Fractions	Write fact families.	4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true.
Elapsed Time	Divide using a related multiplication facts.	4.A.2.2. ~ Simplify a two-step equation using whole numbers.
	Review the identity property of multiplication.	4.A.3.1. ~ Write and solve number sentences that represent one-step word problems using whole numbers.
	Find the value of a given assortment of bills and coins, and tell how to make a given money amount with the fewest bills and /or coins.	4.A.4.1. ~ Solve problems involving pattern identification and completion of patterns.
	Convert among different units of time, and compare measurements of time.	4.M.1.1. ~ Identify equivalent periods of time and solve problems. 4.M.1.2. ~ Solve problems involving money including unit conversion.
		4.N.1.2. ~ Find multiples of whole numbers through 12. 4.N.1.3. ~ Use a number line to compare numerical value of fractions or mixed numbers (fourths, halves, and thirds).

4.N.2.1. ~ Find the products of two-digit factors and quotient of two natural numbers using a one-digit divisor.

4.N.3.1. ~ Estimate sums and differences in whole numbers and money to determine if a given answer is reasonable.

Simple Multiplication and Division

Content	Skills	Standards
Simple Graphs (Tables, Pictograph, Bar, Line, Circle Grids)	Make a table to solve problems.	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division.
Graphing Ordered Pairs	Read, interpret, and make pictographs, bar, line and circle graphs.	4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another.
Problem Solving	Graph equations in the first quadrant and find ordered pairs on the graph of an equation.	4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true.
Mode, Median and Range	Locate and graph ordered pairs on a coordinate grid.	4.A.3.1. ~ Write and solve number sentences that represent one-step word problems using whole numbers.
Line Plots / graphs	Use data in tables and tally charts to make line graphs, bar graphs, and pictographs to solve problems.	4.A.4.1. ~ Solve problems involving pattern identification and completion of patterns.
	Find the median, mode and range for a given set of data	4.N.1.2. ~ Find multiples of whole numbers through 12.
	Read, interpret, and make line plots	4.S.1.1. ~ Interpret data from graphical representations and draw conclusions.
		4.S.1.2. ~ Given a small ordered data set of whole number data points (odd number of points), identify the median, mode, and range.
		4.S.2.1. ~ Determine the probability of simple events limited to equally likely and not equally likely outcomes.

Multiplication (Two and Three Digits)		
Content	Skills	Standards
Multiplication (Two Digit) Multiplication of Two Digit and One Digit Estimating Money Data From Surveys Problem Solving	Use the standard algorithm to multiply two-digit numbers by one-digit numbers. Compute and estimate products involving money amounts. Interpret survey results and make predictions based on those results. Use Commutative and Associative Properties to simplify multiplication with two factors	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division. 4.A.1.2 ~ Students are able to recognize and use the commutative property of addition and multiplication. 4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another. 4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true. 4.A.2.2. ~ Simplify a two-step equation using whole numbers. 4.A.3.1. ~ Write and solve number sentences that represent one-step word problems using whole numbers. 4.A.4.1. ~ Solve problems involving pattern identification and completion of patterns. 4.M.1.2. ~ Solve problems involving money including unit conversion. 4.N.1.2. ~ Find multiples of whole numbers through 12. 4.N.2.1. ~ Find the products of two-digit factors and quotient of two natural numbers using a one-digit divisor. 4.N.3.1. ~ Estimate sums and differences in whole numbers and money to determine if a given answer is reasonable.

Division

Content	Skills	Standards
Division with Remainders	Use models to find quotients and remainders.	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division.
Using Patterns to Divide Mentally	Divide multiples of 10, 100, and 1,000 by a one digit number.	4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another.
Two Digit Quotients	Use models and the standard algorithm to divide 2-digit numbers by 1-digit numbers.	4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true.
Dividing Two Digit Numbers	Decide how to use the quotient and remainder to answer the question in a division problem.	4.A.3.1. ~ Write and solve number sentences that represent one-step word problems using whole numbers.
Problem Solving	Use the standard algorithm to divide 3-digit numbers by 1-digit numbers.	4.M.1.2. ~ Solve problems involving money including unit conversion.
Dividing Three Digit Numbers	Divide with zeros in the quotient.	4.N.2.1. ~ Find the products of two-digit factors and quotient of two natural numbers using a one-digit divisor.
Zeros in the Quotient	Compute and estimate quotients involving money amounts.	4.N.3.1. ~ Estimate sums and differences in whole numbers and money to determine if a given answer is reasonable.
Dividing Money	Determine mentally if a number is divisible by 2, 3, 5, 9, 10.	4.S.1.2. ~ Given a small ordered data set of whole number data points (odd number of points), identify the median, mode, and range.
Finding Mean	Find the average (mean) of a set of numbers.	
Divisability Rules		

Fractions

Content	Skills	Standards
Parts of a Region	Identify and draw fractional parts of a region.	4.A.2.1 ~ Students are able to select appropriate relational symbols ($,$ $=$) to make number sentences true.
Parts of a Set	Identify fractional parts of sets or groups and divide sets to show fractional parts.	4.N.1.1. ~ Read, write, order, and compare numbers from .01 to 1,000,000.
Fractions		
Length	Locate and name fractions on a number line.	4.N.1.3. ~ Use a number line to compare numerical value of fractions or mixed numbers (fourths, halves, and thirds).
Number Line		
Equivalent Fractions	Identify fractions that are equivalent and find fractions equivalent to a given fraction using models and/or a computational procedure.	4.S.1.1. ~ Interpret data from graphical representations and draw conclusions.
Simple Forms of Fractions		
Comparing and Ordering Fractions		
Mixed Numbers	Express fractions in simplest form.	
Improper Fractions	Compare fractions using greater than, less than, and equal to, to order fractions.	
	Read, write, and show mixed numbers, express mixed numbers as improper fractions, and improper fractions as mixed numbers.	

Using Fractions with Unlike Denominators

Content	Skills	Standards
Adding Fractions with Like and Unlike Denominators	Adding fractions with like and unlike denominators, using models	4.A.1.1. ~ Simplify whole number expressions involving addition, subtraction, multiplication, and division.

Subtracting Fractions with Like and Unlike Denominators	and paper and pencil.	4.A.1.2 ~ Students are able to recognize and use the commutative property of addition and multiplication.
Decimals Using Fractions	Subtracting fractions with like and unlike denominators using models and paper and pencil.	4.A.1.3 ~ Students are able to relate the concepts of addition, subtraction, multiplication, and division to one another.
Decimals and Fractions		
Decimal Place Value	Relate decimals to common fraction benchmarks, and write decimals in tenths and hundredths.	4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true.
Comparing and Ordering Decimals		
Rounding Decimals	Write decimals in tenths and hundredths.	4.N.1.1. ~ Read, write, order, and compare numbers from .01 to 1,000,000.
	Write, compare, and order decimals to hundredths.	4.N.1.3. ~ Use a number line to compare numerical value of fractions or mixed numbers (fourths, halves, and thirds).
	Round decimals to the nearest whole number and tenths.	4.N.2.2. ~ Add and subtract decimals with the same number of decimal places.
		4.S.1.2. ~ Given a small ordered data set of whole number data points (odd number of points), identify the median, mode, and range.

Measurement

Content	Skills	Standards
Length and Customary Units	Estimate and measure length to the nearest inch, and choose the most appropriate customary unit of length for a given object or distance.	4.A.2.1 ~ Students are able to select appropriate relational symbols (, =) to make number sentences true.
Fractions of an Inch		4.A.3.1. ~ Write and solve number sentences that represent one-step word problems using whole numbers.
Capacity and Customary Units	Measure and draw lengths to the nearest half, quarter, or eighth of an inch.	4.M.1.3. ~ Use scales of length, temperature, capacity, and weight.
Weight and Customary Units		4.M.1.4. ~ Measure length to the nearest quarter inch.
Temperature		
	Choose the most appropriate	

<p>Probability</p> <p>Frequency Tables</p> <p>Experiments and Outcomes</p>	<p>customary unit of capacity for a given container, and estimate and measure capacity using customary units.</p> <p>Choose the most appropriate customary unit of weight for a given object, and estimate and measure weight using customary units.</p> <p>Read temperatures above and below zero on Fahrenheit thermometers and determine appropriate temperatures for given activities.</p> <p>List all possible results for a situation</p> <p>Describe a probability as likely, unlikely, impossible or certain</p> <p>Express probability in fraction form</p>	<p>4.N.1.2. ~ Find multiples of whole numbers through 12.</p> <p>4.N.1.3. ~ Use a number line to compare numerical value of fractions or mixed numbers (fourths, halves, and thirds).</p> <p>4.N.1.4. ~ Interpret negative integers in temperature.</p> <p>4.S.1.1. ~ Interpret data from graphical representations and draw conclusions.</p> <p>4.S.2.1. ~ Determine the probability of simple events limited to equally likely and not equally likely outcomes.</p>
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Teacher: Core Math Grade 5

Year: 2007-2008

Course: Math Grade 5

Probability and Statistics		
Content	Skills	Standards
Collection of Data from a Survey	Identify a statement as fact or opinion.	5.A.3.2. ~ Identify information and apply it to a given formula.
Bar Graphs	Interpret a line plot and a frequency table.	5.A.4.1. ~ Solve problems using patterns involving more than one operation.
Line Graphs		5.G.2.3. ~ Use two-dimensional coordinate grids to find locations and represent points and simple figures.
Stem-and-leaf plots	Write a survey question.	5.N.1.1. ~ Read, write, order, and compare numbers from .001 to 1,000,000,000.
Mean, median, and mode	Make double bar graphs to represent data.	5.N.2.2. ~ Determine equivalent fractions including simplification (lowest terms of fractions).
Circle Graphs	Make line graphs to represent data.	5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.
Appropriate Graphs	Complete, make, and interpret stem-and-leaf plots.	5.S.1.1. ~ Gather, graph, and interpret data.
Prediction of Outcomes	Find the mean, median, mode, and range of a set of data, and choose the measure that best represents a given set of data.	5.S.1.2. ~ Calculate and explain mean for a whole number data set.
Probability as a Fraction		5.S.2.1. ~ Classify probability of simple events as certain, likely, unlikely, or impossible.
	Complete circle graphs based on data given, and interpret graphs.	5.S.2.2. ~ Use models to display possible outcomes.
	Choose the most appropriate type of graph to represent a given set of data.	
	Identify events and favorable	

	<p>outcomes.</p> <p>Determine if outcome is equally likely, impossible, less likely, more likely, or certain.</p> <p>Find all possible outcomes of an event by making a tree diagram or by multiplying.</p> <p>Use fractions to represent the probabilities of events.</p>	
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Fractions

Content	Skills	Standards
Meaning of fractions	Identify and show fractional parts of regions, sets, and locations on a number line.	5.A.3.1. ~ Using whole numbers, write and solve number sentences that represent two-step word problems.
Fractions and Division		5.A.3.2. ~ Identify information and apply it to a given formula.
Mixed Numbers	Divide objects into equal parts.	5.A.4.1. ~ Solve problems using patterns involving more than one operation.
Estimation of Fractional Amounts	Express fractions greater than 1 as mixed numbers or improper fractions.	5.M.1.2. ~ Solve problems involving money including making change.
Fractions and Mixed Numbers on a number line	Estimate fractional parts of a region	5.N.1.1. ~ Read, write, order, and compare numbers from .001 to 1,000,000,000.
Equivalent Fractions	Identify and locate fractions and mixed numbers on a number line.	5.N.1.2. ~ Find prime, composite, and factors of whole numbers from 1 to 50.
Greatest Common Factor	Identify and write equivalent fractions.	5.N.1.3. ~ Identify alternative representations of fractions and decimals involving tenths, fourths, halves, and hundredths.
Fractions in simplest form		
Fraction Comparisons		
Order of Fractions and Mixed	Determine common factors and	

Numbers	the greatest common factor.	5.N.2.2. ~ Determine equivalent fractions including simplification (lowest terms of fractions).
	Identify fractions that are in simplest form and find simplest form.	5.N.3.0 ~ Develop conjectures, predictions, or estimations in the process of problem solving and verify or justify the results.
	Determine which of two fractions is greater or less and write a comparison.	5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.
	Compare and order fractions and mixed numbers.	5.S.2.2. ~ Use models to display possible outcomes.

Fraction Operations

Content	Skills	Standards
Addition and Subtraction of fractions with like denominators.	Add and subtract fractions with like denominators.	5.A.2.1. ~ Write one-step first degree equations using the set of whole numbers and find a solution.
Least common denominator	Find a common denominator for two fractions using fraction strips.	5.A.3.2. ~ Identify information and apply it to a given formula.
Estimation of Sums and Differences of Mixed Numbers	Find a common denominator for two fractions.	5.A.4.1. ~ Solve problems using patterns involving more than one operation.
Addition and Subtraction Mixed Numbers	Add/Subtract fractions with unlike denominators.	5.N.1.1. ~ Read, write, order, and compare numbers from .001 to 1,000,000,000.
Multiplication of Fractions by whole numbers	Add and Subtract mixed numbers with and without renaming.	5.N.1.2. ~ Find prime, composite, and factors of whole numbers from 1 to 50.
Estimation of products of fractions	Estimate sums and differences of mixed numbers.	5.N.1.3. ~ Identify alternative representations of fractions and decimals involving tenths, fourths, halves, and hundredths.
Multiplication of fractions		
Multiplication of mixed numbers	Use models or mental math to find	5.N.2.2. ~ Determine equivalent fractions including simplification (lowest terms of fractions).

Division with Fractions	<p>fractions or whole numbers.</p> <p>Use compatible numbers and mental math to estimate the product of a whole number and a fraction.</p> <p>Use models or mental math to multiply/divide fractions.</p>	<p>5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.</p> <p>5.S.2.2. ~ Use models to display possible outcomes.</p>
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Place Value, Adding, Subtracting

Content	Skills	Standards
Place Value through Billions Comparison and order of whole numbers	Write the standard, word, and expanded forms of whole numbers to billions.	5.A.1.2. ~ Recognize and use the associative property of addition and multiplication.
Place value through thousandths	Compare and order numbers through millions.	5.A.2.1. ~ Write one-step first degree equations using the set of whole numbers and find a solution.
Comparison and order of decimals Place value Patterns	Write decimals in standard, word, and expanded form through thousandths.	5.A.3.1. ~ Using whole numbers, write and solve number sentences that represent two-step word problems.
Mental Addition and Subtraction	Compare and order decimals through thousandths.	5.A.4.1. ~ Solve problems using patterns involving more than one operation.
Rounding Estimation	Use place value ideas to write multiples of 100, 1000, and 10000 in different ways.	5.M.1.2. ~ Solve problems involving money including making change. 5.N.1.1. ~ Read, write, order, and compare numbers from .001 to 1,000,000,000.
Addition and Subtraction of whole numbers	Compute sums and differences mentally using the commutative and associative properties of addition, compatible numbers, and	5.N.1.3. ~ Identify alternative representations of fractions and decimals involving tenths, fourths, halves, and hundredths.
Addition and Subtraction of Decimals		5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole

	<p>compensation, and by counting up.</p> <p>Round whole numbers through millions and decimals through thousandths.</p> <p>Use rounding and front end estimation with adjusting to estimate sums and differences of whole numbers and decimals.</p> <p>Compute sums and differences of two whole numbers greater than 10,000.</p> <p>Compute sums/differences of decimals involving tenths, hundredths, and thousandths.</p>	<p>number.</p>
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Multiply whole and decimals - Algebraic Expression

Content	Skills	Standards
Multiplication patterns	Mentally compute products of whole numbers using patterns and properties.	5.A.1.1. ~ Use a variable to write an addition expression.
Estimation of Products	Use rounding and compatible numbers to estimate products of whole numbers.	5.A.1.2. ~ Recognize and use the associative property of addition and multiplication.
Mental math/ distributive property	Identify estimates as overestimates or underestimates.	5.A.2.1. ~ Write one-step first degree equations using the set of whole numbers and find a solution.
Multiplication of Whole Numbers	Mentally multiply numbers of up to 3 places by numbers of up to two	5.A.3.1. ~ Using whole numbers, write and solve number sentences that represent two-step word problems.
Computation methods		5.A.3.2. ~ Identify information and apply it to a given formula.
Decimal Patterns		
Estimation of Decimal Products		

<p>Multiplication of whole numbers/decimals</p>	<p>places.</p>	<p>5.A.4.1. ~ Solve problems using patterns involving more than one operation.</p>
<p>Grids to multiply decimal/decimal</p>	<p>Use the standard algorithm to multiply numbers by one-and two-digit numbers.</p>	<p>5.M.1.2. ~ Solve problems involving money including making change.</p>
<p>Variables/Expressions</p>	<p>State the computation method to be used and add/subtract using that method.</p>	<p>5.N.1.3. ~ Identify alternative representations of fractions and decimals involving tenths, fourths, halves, and hundredths.</p>
<p>Translation of words into expressions</p>	<p>State the computation method to be used and add/subtract using that method.</p>	<p>5.N.1.5. ~ Determine the squares of numbers 1 – 12.</p>
<p>Equations</p>	<p>Mentally multiply any decimal by a power of ten.</p>	<p>5.N.2.1. ~ Find the quotient of whole numbers using two-digit divisors.</p>
	<p>Use rounding and compatible numbers to estimate products of decimal numbers.</p>	<p>5.N.2.3. ~ Multiply and divide decimals by natural numbers (1 – 9).</p>
	<p>Multiply whole numbers by decimals.</p>	<p>5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.</p>
	<p>Use grid models to find products of decimals.</p>	<p>5.S.2.2. ~ Use models to display possible outcomes.</p>
	<p>Multiply decimals by decimals.</p>	
	<p>Use variables to write algebraic expressions.</p>	
	<p>Write number expressions for phrases.</p>	
	<p>Identify patterns and find a rule for the pattern.</p>	
	<p>Identify patterns and find a rule for the pattern.</p>	
	<p>Solve equations using mental</p>	

mathematics and by guessing and testing values for the variable.

Division

Content	Skills	Standards
Meaning of Division	Draw a picture or use objects to show a division situation and find quotients.	5.A.2.1. ~ Write one-step first degree equations using the set of whole numbers and find a solution.
Division Patterns		5.A.3.1. ~ Using whole numbers, write and solve number sentences that represent two-step word problems.
Estimation of quotients	Find the quotient whos dividend is a multiple of 10.	5.A.4.0 ~ Describe and use the properties and behaviors of relations, functions, and inverses.
Division of Whole Numbers	Use rounding, compatible numbers, and multiplication to estimate quotients of whole numbers and money.	5.M.1.2. ~ Solve problems involving money including making change.
Zeros in the Quotient		5.N.1.1. ~ Read, write, order, and compare numbers from.001 to 1,000,000,000.
Division of Larger Dividends	Find quotients using the model of sharing money.	5.N.1.2. ~ Find prime, composite, and factors of whole numbers from 1 to 50.
Division of Money	Divide 3-digit whole numbers by one-digit divisors.	5.N.1.3. ~ Identify alternative representations of fractions and decimals involving tenths, fourths, halves, and hundredths.
Factors and Divisibility	Divide with zeros in the quotient.	5.N.2.1. ~ Find the quotient of whole numbers using two-digit divisors.
Prime/Composite Numbers	Find the quotients of four-digit whole numbers divided by one-digit divisors.	5.N.2.3. ~ Multiply and divide decimals by natural numbers (1 – 9).
Interpretation of Remainders	Determine if numbers are divisible by 2, 3, 4, 5, 6, 9, and 10.	5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.
Order of operations	Identify numbers as prime or composite.	5.S.2.2. ~ Use models to display possible outcomes.

	Interpret remainders by giving total amounts needed to include remainders and amounts left over.	
	Evaluate expressions with three or more numbers and two or more operations.	

Geometry

Content	Skills	Standards
Geometric Ideas	Identify important geometric terms relating to lines, parts of a line, angles, and planes.	5.G.1.1. ~ Describe and identify isosceles and equilateral triangles, pyramids, rectangular prisms, and cones.
Classification of Angles		5.G.1.2. ~ Identify acute, obtuse, and right angles.
Segments/ Angles	Measure/draw/classify angles.	5.G.2.1. ~ Determine lines of symmetry in rectangles, squares, and triangles.
Polygons	Identify parts of a circle such as center, radius, diameter, chord, and central angle.	5.G.2.2. ~ Identify a turn or flip (rotation or reflection) of a given figure.
Classification of Triangles		5.G.2.3. ~ Use two-dimensional coordinate grids to find locations and represent points and simple figures.
Congruence/Similarity	Identify/classify polygons.	5.N.1.4. ~ Locate negative integers on a number line.
Transformations	Identify/classify triangles.	5.N.1.5. ~ Determine the squares of numbers 1 – 12.
Symmetry	Identify congruent/similar figures.	5.S.2.2. ~ Use models to display possible outcomes.
	Determine whether a pair of congruent figures are related by a slide, flip, or turn.	
	Identify and make symmetrical figures and draw a line or lines of symmetry.	

Measurement

Content	Skills	Standards
Customary units of length	Change between one customary unit of length and another.	5.A.3.2. ~ Identify information and apply it to a given formula.
Customary units of weight	Solve units of length.	5.M.1.1. ~ Determine elapsed time within an a.m. or p.m. period on the quarter-hour.
Perimeter	Calculate the perimeter of a polygon.	5.M.1.3. ~ Use and convert U.S. Customary units of length (inches, feet, yard), and weight (ounces, pounds).
Circumference	Calculate circumference of a circle by using a formula.	5.M.1.4. ~ Use appropriate tools to measure length, weight, temperature, and area in problem solving.
Area	Calculate the area of squares/rectangles/triangles.	5.N.1.5. ~ Determine the squares of numbers 1 – 12.
Time	Convert from one unit of time to another.	5.N.2.2. ~ Determine equivalent fractions including simplification (lowest terms of fractions).
Elapsed Time	Determine elapsed time.	5.N.2.3. ~ Multiply and divide decimals by natural numbers (1 – 9).
Temperature	Identify temperatures in degrees Fahrenheit and in degrees Celsius on a thermometer with both scales.	5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.
	Measure and convert units of weight	5.S.1.1. ~ Gather, graph, and interpret data. 5.S.2.2. ~ Use models to display possible outcomes.

Double Digit Division- Integers

Content	Skills	Standards
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Multiples of 10	Find the quotients of division problems whose dividends and divisors are multiples of 10.	5.A.2.1. ~ Write one-step first degree equations using the set of whole numbers and find a solution.
Estimation of Two-digit Divisors		5.A.3.1. ~ Using whole numbers, write and solve number sentences that represent two-step word problems.
Division of whole numbers by two-digit divisors.	Estimate quotients with whole numbers, decimals, and money divided by 2-digit whole numbers.	5.A.4.1. ~ Solve problems using patterns involving more than one operation.
Division of larger numbers	Divide three-digit whole numbers by 2-digit divisors.	5.N.1.2. ~ Find prime, composite, and factors of whole numbers from 1 to 50.
Computation methods	Find the quotient of 4-digit whole numbers divided by 2-digit divisors.	5.N.1.3. ~ Identify alternative representations of fractions and decimals involving tenths, fourths, halves, and hundredths.
Zeros in the Quotient	State the computation method to be used.	5.N.1.4. ~ Locate negative integers on a number line.
Multiple step problems	Divide numbers whose quotients include zeros.	5.N.2.1. ~ Find the quotient of whole numbers using two-digit divisors.
Division of Decimals	Divide decimal numbers by 10, 100, and 1000.	5.N.3.1. ~ Use different estimation strategies to solve problems involving whole numbers, decimals, and fractions to the nearest whole number.
Division of Money	Read, write, compare, and order integers.	