

Ware Public Schools

MATH CURRICULUM - Grades K-4

SUBJECT MATTER: Math - Number Sense and Operations

Grade: K

Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.N.1 Count by ones to at least 20.	Counting	<p>Students will be able to: Count verbally from 0 to 20.</p> <p>Vocabulary: one, two, three, count, number, four, five, zero, six, seven, one more, one fewer, eight, forward, nine, ten, backward, between, hundred chart</p>	<p>Chapters 3, 4, 5 Tests</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment</p> <p>Suggestions:</p> <ol style="list-style-type: none"> 1. Have students count orally to 20. 2. Have students perform calendar math activities. 3. Have students trace numbers using sandpaper or fingerprint. 	<p>Ten Black Dots by <i>Donald Crews</i></p> <p><i>The Doorbell Rang</i> by Pat Hutchins</p> <p><i>Rooster's Off To See the World</i> by Eric Carle</p> <p><i>Bears at the Beach: Counting 10 to 20</i> by Niki Yektai</p> <p><i>Let's Count it Out, Jesse Bear</i> by Nancy White Carlstrom</p> <p>Investigations:</p> <ol style="list-style-type: none"> 1. Collecting, Counting and Measuring 2. How Many In All? <p>Lakeshore Boxed Game: Counting</p> <p>Manipulatives: counting bears, cubes, crayons, pencils, color tiles</p> <p>Suggested Activities:</p> <ol style="list-style-type: none"> 1. The Name Game 2. Counting Bears 3. counting classmates

Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.N.2 Match quantities up to at least 10 with numerals and words.	Quantities Equal sets Connecting numerals with numbers	<p>Students will be able to:</p> <ol style="list-style-type: none"> Order numerals 0-10. Create and label sets of objects 0-10. Create two sets that are equal. <p>Vocabulary: number, zero, more, less, fewer, same (equal), order, most, fewest, forward, greater</p>	<p>Chapter 3 and 4 Tests</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment</p> <p>Suggestions:</p> <ol style="list-style-type: none"> Using manipulatives, create two equal sets. Have children show a numeral and then match the same number of objects. 	<p>Investigations:</p> <ol style="list-style-type: none"> How Many in All? <p>Manipulatives: Bears, unifix cubes, flash cards, crayons, color tiles</p> <p>Suggested Activities:</p> <ol style="list-style-type: none"> Flash cards and bears Memory Gummy Bear Math
K.N.3 Identify positions of objects in sequences (e.g. first, second) up to fifth.	Ordinal numbers	<p>Students will be able to:</p> <ol style="list-style-type: none"> Use ordinal numbers through fifth. Place objects in an ordinal order. <p>Vocabulary: first, second, third, fourth, fifth</p>	<p>Chapter 3 Test</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment</p> <p>Suggestions:</p> <ol style="list-style-type: none"> Place five objects on the table and have students orally identify the position of each object. Calendar activities. 	<p><i>On the Stairs</i> by Julie Hofstrand</p> <p>Manipulatives: Bears, cubes, crayons, color tiles, markers, pattern blocks</p> <p>Suggested Activities:</p> <ol style="list-style-type: none"> Line up Order parts of the day Calendar activities

Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.N.4 Compare sets of up to at least 10 concrete objects using appropriate language (e.g. none, more than, fewer than, same number of, one more than) and order numbers.	One to one correspondence More than, less than, equal to	<p>Students will be able to:</p> <ol style="list-style-type: none"> Match one to one correspondence for 1-10 objects. Demonstrate the concepts of more than, less than and equal to. <p>Vocabulary: as many (equal), more, fewer, graph, real graph, greater, less, before, after, between</p>	<p>Chapter 3 Test</p> <p>Chapter 4 Test</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> Using manipulatives, match one to one. Children will make a graph and compare the results by using more than, less than and equal to. 	<p><i>Ten, Nine, Eight</i> by Molly Bang</p> <p><i>The Very Hungry Caterpillar</i> by Eric Carle</p> <p><i>The Rainbow Fish</i> by Marcus Pfister</p> <p>Lakeshore Boxed Game: Counting</p> <p>Investigations:</p> <ol style="list-style-type: none"> How Many in All? Collecting, Counting and Measuring <p>Manipulatives: Bears, color tiles, crayons, markers, pattern blocks, cubes, M&Ms</p> <p>Suggested Activities:</p> <ol style="list-style-type: none"> Graph favorite activity M&M Math 10 Frame Game
K.N.5 Understand the concepts of whole and half.	Fractions Parts and whole Equal parts	<p>Students will be able to:</p> <ol style="list-style-type: none"> Identify that something cut in half has “equal halves.” Tell or show how to equally cut something in half. 	<p>Chapter 8 Test</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> Break crackers in half or cut paper in half. 	<p><i>Eating Fractions</i> by Bruce McMillan</p> <p>Manipulatives: Food, pattern blocks</p> <p>Suggested Activities:</p> <ol style="list-style-type: none"> Food Activities Symmetry Painting Eating Fractions

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			2. Give each child a peeled orange and have them segment it into parts. 3. Give pairs of children a piece of bread and have them decide how to cut it into two equal parts.	
K.N.6 Identify U.S. coins by name.	Identify coins	Students will be able to: 1. Identify penny, nickel, dime and quarter by name. 2. Tell how much money each individual coin represents. Vocabulary: penny, cent, cent sign, nickel, dime, quarter	Chapter 7 Test Observations Classwork Project Assessment Suggestions: 1. Have children make a coin identity book. 2. 2. Have children sort coins by the type (name) of coin and by the value.	Manipulatives: Fake and real: pennies, nickels, dimes and quarters <u>Suggested Activities:</u> 1. Store 2. Paper Plate Coins 3. Coin sorting
K.N.7 Use objects and drawings to model and solve related addition and subtraction problems to 10.	Addition Subtraction	Students will be able to: 1. Add and subtract number problems to 10. 2. Solve word problems (addition and subtraction). Vocabulary: whole, part, one more, two more,	Chapter 9 Test Observations Classwork Project Assessment Suggestions:	<u><i>Fish Eyes</i></u> by Lois Ehlert <u><i>Stone Soup</i></u> by Heather Forest <u><i>The Very Hungry Caterpillar</i></u> by Eric Carle Investigations:

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		one fewer, altogether, add, plus sign, equal sign, sum, take away, minus sign, subtract, difference	<ol style="list-style-type: none"> 1. Have students work together in pairs to write word problems. Switch with another group and draw pictures to help them solve their problems. 2. Have students use 2 colors of counting bears to make addition or subtraction problems. 	Counting Ourselves and Others Lakeshore Boxed Game: Addition Manipulatives: Counting bears, color tiles, cubes, dot art, markers, crayons, gummy bears, M&Ms, Skittles Suggested Activities: <ol style="list-style-type: none"> 1. M&M Math 2. Word Problems 3. Dice Game
K.N.8 Estimate the number of objects in a group and verify results.	Estimation	<p>Students will be able to: Use the strategy of guessing and checking to estimate objects from 0-20.</p> <p>Vocabulary: about</p>	Chapter 7 Test Observations Classwork Project Assessment Suggestions: <ol style="list-style-type: none"> 1. Fill a mitten or bag with objects and have students estimate the number of objects. 2. Count out the objects afterwards and 	Lakeshore Boxed Game: Estimation Manipulatives: Cotton balls, marbles, jelly beans, cubes, pennies, buttons Suggested Activities: <ol style="list-style-type: none"> 1. Estimation Jar 2. Button Box 3. Jelly Bean Jar

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			<p>then compare to other size mittens/bags.</p> <p>3. Have children estimate how many color tiles will cover a book and than have them cover the book and see how many tiles it took.</p>	



SUBJECT MATTER: Math - Patterns

Grade: K

Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.P.1 Identify the attributes of objects as a foundation for sorting and classifying. e.g. a red truck, a red block, and a red ball share the attribute of being red; a square block, a square cracker, and a square book share the attribute of being square shaped.	Identify attributes of objects Sorting and classifying	Students will be able to: 1. Describe objects by using color, size and shape. 2. Recognize and sort objects by their attributes. Vocabulary: sorting rule	Chapter 1 Test Observations Classwork Project Assessment Suggestions: 1. Give students a pile of counting bears and have them sort them by color or a pile of pattern block and have them sort them by color or shape. 2. Sort pictures into alike piles and glue them onto a piece of paper (e.g. animals that fly, animals that swim and animals that walk)	<u><i>I Spy</i></u> by Walter Wick and Jean Marzollo Investigations: 1. Exploring Geometry Lakeshore Boxed Game: Sorting Manipulatives: Lego's, bears, pattern blocks, cubes, color tiles, trucks, markers, crayons Suggested Activities: 1. Lego Sort 2. Animal Sort 3. Book Box
K.P.2 Sort and classify objects by color, shape, size, number, and other properties.	Sorting Classifying	Students will be able to: Sort objects in categories based on attributes and explain how they are the same or different.	Chapter 1 Test Observations Classwork	<u><i>My First Word Book</i></u> by Angela Wilkes <u><i>I Spy</i></u> by Walter Wick and Jean Marzollo

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		Vocabulary: same (alike), different, sort, does not belong, sorting rule	Project Assessment Suggestions: 1. Sort objects (e.g. cubes, counting bears, pattern blocks, etc). 2. Have students sort the children in the class by hair or eye color.	Lakeshore Boxed Game: Sorting Manipulatives: Lego's, bears, pattern blocks, cubes, color tiles, trucks, markers, crayons Suggested Activities: 1. Lego Sort 2. Animal Sort 3. Book Box
K.P.3 Identify, reproduce, describe, extend, and create color, rhythmic, shape, number, and letter patterns with simple attributes, e.g. ABABABAB.....	Identify Patterns Make Patterns	Students will be able to: 1. Identify and describe patterns. 2. Reproduce and create patterns using color, rhythm, shape, numbers and letters.	Chapter 2 Test Observations Classwork Project Assessment Suggestions: 1. Use objects to create a pattern. 2. Have children make bead or noodle necklaces in a pattern. 3. Give each student a piece of construction paper (using 2 or 3 colors) and have them line up in a pattern. 4. Have children make cube train patterns.	<u><i>Maisy at the Fair</i></u> by Lucy Cousins <u><i>If You Give a Mouse a Cookie</i></u> by Laura Joffe Numeroff Investigations: 1. Pattern Trains and Hopscotch Paths Patterns Game Lakeshore Boxed Game: Patterning Manipulatives: Counting bears, color tiles, cubes, beads, markers, crayons, pattern blocks Suggested Activities: 1. Bead Necklaces 2. Finish the Pattern 3. Cube Train

Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.P.4 Count by fives and tens up to 50.	Count by fives and tens	<p>Students will be able to:</p> <ol style="list-style-type: none"> Count by fives to at the least 50. Count by tens to at least 50. <p>Vocabulary: skip counting, counting by 2s, counting by 5s, counting by 10s, numerical pattern</p>	<p>Chapter 12 Test</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> Have students orally count by fives and tens to 50. Have students circle the “fives” numbers on a number in red and the “tens” numbers in blue. Have children use straws to group and count by fives and tens. 	<p>Manipulatives: Fingers, toes, bears, ten frames, five frames, cubes, color tiles, hundreds chart</p> <p>Suggested Activities:</p> <ol style="list-style-type: none"> Hundreds Chart Activities Finger/Toe counting Calendar Activities

10, **20,** **30,** **40,** **50**

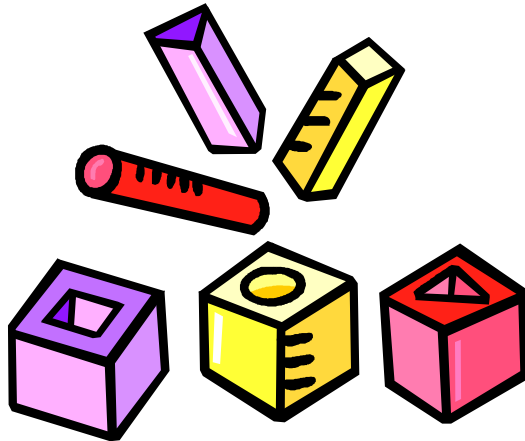
SUBJECT MATTER: Math - Geometry

Grade: K

Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.G.1 Name, describe, sort, and draw simple two – dimensional shapes.	Two – dimensional shapes	Students will be able to: 1. Sort, match and recognize two – dimensional figures (circle, square, triangle, and rectangle). 2. Manipulate shapes to create new shapes (tangram shapes and pattern blocks). Vocabulary: sorting rule, square, rectangle, circle, triangle, slide, flip, turn	Chapter 8 Test Observations Classwork Project Assessment Suggestions: 1. Students will pattern blocks to sort and match shapes. 2. Have students draw and name two – dimensional shapes. 3. Bring children on a shape walk. 4. Have children find and identify shapes within a picture.	<u>Color Farm</u> by Lois Ehlert <u>Shapes, Shapes, Shapes</u> by Tana Hoban Lakeshore Boxed Game: Shapes Investigations: 1. Making Shapes and Building Blocks Manipulatives: Pattern blocks, shape stamps, shape blocks Suggested Activities: 1. Shape Sort 2. Shape Hunt 3. Picture Design
K.G.2 Describe attributes of two – dimensional shapes, e.g. number of sides or number of corners.	Describing attributes of shapes	Students will be able to: Count the number of sides or corners of shapes.	Chapter 8 Test Observations Classwork Project Assessment Suggestions: 1. Have students draw and	Lakeshore Boxed Game: Shapes Investigations: 1. Making Shapes and Building Blocks Manipulatives: Shape blocks, pattern blocks, shape stamps

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			describe the attributes of shapes. 2. Have students use pattern blocks to describe the attributes of shapes. 3. Have children use toothpicks and clay or playdough to make three – dimensional shapes.	Suggested Activities: 1. Clay shapes 2. Describing Shapes Activity 3. Shape Count
K.G.4 Identify positions of objects in space, and use appropriate language (e.g. beside, inside, next to, close to, above, below, apart) to describe and compare their relative positions.	Spatial sense	Students will be able to: Demonstrate an understanding of spatial sense. Vocabulary: inside, outside, over (above), under (below), on, top, middle, bottom, left, right	Chapter 1 Test Observations Classwork Project Assessment Suggestions: 1. Have children draw a circle on a piece of paper and glue pictures inside and outside of the circle. 2. Bring in a stuffed animal and hide it. After the child finds it, have them describe	<u><i>Tops and Bottoms</i></u> by Janet Stevens <u><i>Maisy at the Fair</i></u> by Lucy Cousins Manipulatives: Bears, trucks, dolls Suggested Activities: 1. Picture Sort 2. Where is Bear? 3. Animal Game

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			<p>where the animal was (e.g. the bear was under the chair or the bear was inside the box).</p>	



SUBJECT MATTER: Math - Measurement

Grade: K

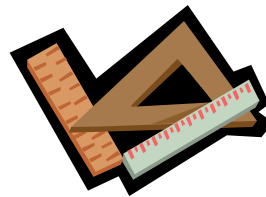
Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.M.1 Recognize and compare the attributes of length, volume/capacity, weight, area and time using appropriate language, e.g. longer, taller, shorter, same length; heavier; lighter; same weight.	Size/Order Measuring	Students will be able to: <ol style="list-style-type: none">1. Arrange objects from smallest to largest or lightest to heaviest.2. Compare length, capacity, weight, area and time. Vocabulary: larger (bigger), smaller, small, medium, large, big, bigger, biggest, smallest, largest, empty, full, holds more, holds less, most, least, heavier, lighter, about the same, more time, less time	Chapter 6 Test Observations Classwork Project Assessment Suggestions: <ol style="list-style-type: none">1. Have students arrange art supplies from lightest to heaviest or smallest to largest.2. Have children arrange cups in order from smallest capacity to largest capacity.3. Have children measure things around the room and compare the lengths.	<u>Chrysanthemum</u> by Kevin Henkes <u>Strega Nona</u> by Tomie dePaola Lakeshore Boxed Game: Measurment <u>The Lot at the End of my Block</u> by Kevin Lewis Manipulatives: Clocks, measuring cups, scales, rulers Suggested Activities: <ol style="list-style-type: none">1. What time is it?2. What holds more?3. Classroom Measurements

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>K.M.3 Use nonstandard units to measure length, area, weight and capacity.</p>	<p>Nonstandard units of measure</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Use nonstandard units to measure objects (e.g. blocks, hands, feet, paper clips). 2. Students will be able to use nonstandard units to measure length. 3. Students will be able to use nonstandard units to compare weight, capacity, and area. <p>Vocabulary: measure, estimate, check, balance, weight</p>	<p>Chapter 6 Test</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> 1. Use a paperclip to measure the length of objects in the room. 2. Have children use color tiles to measure the area of a book cover. 3. Have children use cubes to measure the capacity of several cups. 	<p><i>Measuring Penny</i> by Loreen Leedy</p> <p>Investigations:</p> <ol style="list-style-type: none"> 1. Collecting, Counting and Measuring <p>Manipulatives: Paper clips, cup, cubes, color tiles, fingers, pencils, markers, crayons</p> <p>Suggested Activities:</p> <ol style="list-style-type: none"> 1. Classroom Measuring 2. Cube Measuring 3. How Much Lemonade?



SUBJECT MATTER: Math - Data Analysis, Statistics and Probability Grade: K

Standard	Content	Skills	Assessment	Teacher Resources & Notes
K.D.1 Collect, sort, organize, and draw conclusions about data using concrete objects, pictures, numbers and graphs.	Graphing	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Collect data and demonstrate an understanding of the findings. 2. Verbally discuss the results of a graph. 3. Make a graph using data collected. <p>Vocabulary: graph, real graph, picture graph, one, two, three, count, most, fewest</p>	<p>Chapter 2 Test</p> <p>Observations</p> <p>Classwork</p> <p>Project Assessment</p> <p>Suggestions:</p> <ol style="list-style-type: none"> 1. Have the students survey some classmates on a simple question (e.g. Do you like milk or juice better?) and graph the results. 2. Toss a cube with a different shape on each side in the air and tally the results on a graph and compare results with a partner. 	<p><i>Sheep in a Jeep</i> by Nancy Shaw</p> <p>Lakeshore Boxed Game: Graphing</p> <p>Investigations: 1. Counting Others and Ourselves</p> <p>Manipulatives: Pictures, bears, cubes, color tiles, pattern blocks</p> <p>Suggested Activities: 1. Graphs 2. Picture Time 3. Interviews</p>



SUBJECT MATTER: Math - Number Sense and Operations

Grade: 1

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2.N.1 Name and write (in numerals) whole numbers to 1000, identify the place value of the digits, and order the numbers.	Numerals Place Value	The students will be able to: 1. Create and label sets of objects to 100. 2. Demonstrate an understanding of tens and ones. Vocabulary Before, between, after, tens, digit, ones, hundreds	Chapter Assessment 7 Oral response Classwork Project Assessment Suggestions: 1. Bundle straws to group by 1's and 10's. 2. Match groups of items to the correlating numeral value. 3. Plug numbers in on a hundred numbers chart.	Investigations Number Sense and Numeration 100 Number Chart
2.N.2 Identify and distinguish among multiple uses of numbers, including cardinal (to tell how many) and ordinal (to tell which one in an ordered list), and numbers as labels and as measurement.	Ordinal Numbers Cardinal Numbers Skip counting	The students will be able to: 1. Identify multiple uses of numbers. 2. Place numbers in order. 3. Skip count by 2's, 5's and 10's.	Chapter Assessment 7 Classwork Project Assessment Suggestions: 1. Place a set of numbers in order from least to greatest. 2. Count items in different ways.	<i>The M&M's Counting to One Hundred Book</i> by Barbara Barbieri McGrath Investigations Mathematical Thinking <i>One Moose, Twenty Mice</i> by Clare Beaton

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.N.3 Identify and represent common fractions ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$) as parts of wholes, parts of groups, and numbers on the number line.</p>	<p>Fractions</p>	<p>The students will be able to:</p> <ol style="list-style-type: none"> 1. Identify and represent fractions. 2. Locate fractions on a number line. <p>Vocabulary Equal parts, fraction, whole halves, one half $\frac{1}{2}$, thirds, one third $\frac{1}{3}$ fourths, one fourth $\frac{1}{4}$</p>	<p>Chapter Assessment 5</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> 1. Cut up an apple in half, thirds and fourths. 2. Move half way between numbers on a human number line. 	<p><i>Eating Fractions</i> by Bruce McMillan</p> <p>Investigations Geometry and Spatial Sense</p> <p><i>Apple Fractions</i> by Jerry Pallotta</p>
<p>2.N.4 Compare whole numbers using terms and symbols, e.g., less than, equal to, greater than (<, =, >)</p>	<p>Number comparisons</p>	<p>The students will be able to: Use the greater than, less than and equal to symbols.</p> <p>Vocabulary Less, greater, least, between, greatest, less than (<), equal to (=), change</p>	<p>Chapter Assessment 8</p> <p>Oral Response</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> 1. Orally read mathematical number problems using greater than, equal to and less than terms. 2. Compare unifix cube trains. 	<p>Investigations Number Sense and Numeration</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.N.5 Identify odd and even numbers and determine whether a set of objects has an odd or even number of element.</p>	<p>Odd and even numbers Grouping</p>	<p>The students will be able to: 1. Identify odd and even numbers. 2. Group items.</p> <p>Vocabulary Even, odd</p>	<p>Chapter Assessment 7 Oral Response Classwork Project Assessment Suggestions: Gather a group of items and then identify them as odd or even.</p>	<p>Investigations: Building Number Sense</p>
<p>2.N.6 Identify the value of all U.S. coins, and \$1, \$5, \$10 and \$20 bills. Find the value of a collection of coins and dollar bills and different ways to represent an amount of money up to \$5, Use appropriate notation, e.g., 69c, \$1.35.</p>	<p>Monetary identification Monetary value</p>	<p>The students will be able to: 1. Identify American coins and small bills. 2. Count money. 3. Represent a monetary value different ways.</p> <p>Vocabulary Penny, cent, nickel, dime, change, quarter, half dollar, dollar (\$)</p>	<p>Chapter Assessment 9 Oral Response Classwork Project Assessment Suggestions: 1. Sort coins by value. 2. Match an item's worth to the corresponding monetary value. 3. Participate in a classroom store.</p>	<p><i>Alexander, Who Used to Be Rich Last Sunday</i> by Judith Viorst <i>A Chair for My Mother</i> by Vera B. Williams <i>Penny Pot</i> Stuart J. Murphy and Lynne Woodcock Cravath Welcome Books: Dimes, Dollar, Nickels, Pennies, Quarters and Spending and Saving <i>Monster Money Book</i> by Loreen Leedy</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.N.7 Demonstrate an understanding of various meanings of addition and subtraction, e.g., addition as combination (plus, combined with, more); subtraction as comparison (how much less, how much more), equalizing (how many more are needed to make these equal), and separation (how much remaining),</p>	<p>Addition Subtraction More Than Less than</p>	<p>The students will be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate an understanding of the concepts of addition and subtraction. 2. Use numbers to solve mathematical problems. 3. Determine whether or not a word problem requires addition or subtraction. 4. Combine and separate sets of objects. 5. Distinguish between greater than and less than. <p>Vocabulary More than, fewer than, join, add, sum addition sentence, plus, equals, subtract, difference, subtraction sentence, minus, count on, addend, number line, double, count back</p>	<p>Chapter Assessments 1 and 3</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> 1. Orally solve math problems using flashcards and matching games. 2. Determine if a word problem requires addition or subtraction to solve. 	<p><i>Anno's Counting Book</i> by Mitsumasa Anno</p> <p><i>One Duck Stuck</i> by Phyllis Root</p> <p><i>More, Fewer, Less</i> by Tana Hoban</p> <p>Investigation: Number Games and Story Problems</p>
<p>2.N.8 Understand and use the inverse relationship between addition and subtraction (e.g., $8 + 6 = 14$) is equivalent to $14 - 6 = 8$ and is also equivalent to $14 - 8 = 6$ to solve problems and check solution.</p>	<p>Inverse relationships</p>	<p>The students will be able to: Identify the inverse match of an addition or subtraction problem.</p> <p>Vocabulary Related facts, fact family</p>	<p>Chapter Assessment 4 and 11</p> <p>Classwork</p> <p>Project Assessment Suggestions: Use cubes to visually represent mathematical problems and the inverse relations.</p>	<p>Investigation: Number Games and Story Problems</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.N.9 Know addition facts (addends to ten) and related subtraction facts, and use them to solve problems.</p>	<p>Addition Subtraction</p>	<p>The students will be able to: Solve addition and subtraction facts.</p> <p>Vocabulary Add, sum, addition sentence, plus, equals, subtract, difference, subtraction sentence, minus, count on, addend, number line, double, count back, related facts, fact family</p>	<p>Chapter Assessments 3,4 and 11</p> <p>Classwork</p> <p>Project Assessment Suggestions: 1. Orally solve addition and subtraction sentences using flashcards. 2. 2. Addition times tests.</p>	<p><i>Animals on Board</i> by Stuart J. Murphy</p>
<p>2.N.10 Demonstrate the ability to add and subtract three-digit numbers accurately and efficiently.</p>	<p>Addition Subtraction</p>		<p>Chapter Assessment 12</p> <p>Classwork</p> <p>Project Assessment Suggestions: 1. Use base ten blocks to solve two digit addition sentences.</p>	<p><i>Shark Swimathon</i> by Stuart J. Murphy</p>
<p>2.N.12 Estimate, calculate, and solve problems involving addition and subtraction of two-digit numbers. Describe differences between estimates and actual calculations.</p>	<p>Estimation Calculations</p>	<p>The students will be able to:</p> <ol style="list-style-type: none"> 1. Estimate the amount of a group of items. 2. Accurately calculate the correct sum of a group of items. <p>Vocabulary Estimate, about</p>	<p>Chapter Assessments 8 and 12</p> <p>Classwork</p> <p>Project Assessment Suggestions: Estimate the number of candies in a jar.</p>	<p><i>17 Kings and 42 Elephants</i> by Margaret Mahy</p> <p><i>Coyotes All Around Us</i> by Stuart J. Murphy and Lynne Woodcock Cravath</p> <p>Investigation: Number Games and Story Problems</p>

SUBJECT MATTER: Math – Patterns, Relationships, and Algebra

Grade: 1

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2.P.1 Identify, reproduce, describe, extend and create simple rhythmic, shape, size, number, color, and letter repeating patterns.	Patterns	The students will be able to: Reproduce and identify patterns. Vocabulary Pattern	Chapter Assessment 1 Classwork Project Assessment Suggestions: 1. Create an AB pattern using colored tiles. 2. Continue patterns using correlating shapes, numbers, letters and or colors. 3. Use colored beads to create a patterned necklace. 4. Quilt making	<i>Pattern Fish</i> by Trudy Harris <i>Lots and lots of Zebra Stripes: Patterns in Nature</i> by Stephen Swinburne
2.P.2 Identify different patterns in the hundreds chart.	Number Patterns	The students will be able to: 1. Find and predict numbers on the hundreds chart. 2. Solve problems by finding patterns on the number chart.	Chapter Assessment 7 Classwork Project Assessment Suggestions: 1. Count by 2's, 5's and 10's on the hundred number chart.	<i>If you Give a Mouse a Cookie</i> by Laura Joffe Numeroff <i>Ocean Counting: Odd Numbers</i> by Jerry Pallotta 100 Number Chart

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			2. Identify odd and even numbers on a hundred number chart.	
2.P.3 Describe and create addition and subtraction number patterns, e.g., 1,4,7,10... or 25, 23, 21...	Skip Counting Number Patterns	The students will be able to: 1. Skip count to find the next number in a pattern. 2. Identify the pattern in a skip counting sequence.	Addison Wesley Chapter 7 Classwork Project Assessment Suggestions: Students will use calculators to skip count and then have them use the 100's chart to fill in missing numbers.	<i>100 Days of School</i> by Trudy Harris
2.P.4 Skip count by two, fives, and tens up to at least fifty, starting at any number.	Skip Counting	The students will be able to: Skip count by 2's, 5's and 10's. Vocabulary: Graph	Addison Wesley Chapter 7 Classwork Project Assessment Suggestions: 1. Count by 2's, 5's and 10's on the calendar to identify how many days school has been in	<i>The M&M's Counting to One Hundred Book</i> by Barbara Barbieri McGrath Investigation: Number Games and Story Problems <i>100 Hungry Ants</i> by Elinor J. Pinczes

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			session. 2. Remove all shoes and have students count the total number of toes in the classroom.	
2.P.5 Construct and solve open sentences that have variables, e.g., $_ + 7 = 10$.	Addition	The students will be able to: Use tens frames to solve open mathematical sentences. Vocabulary: Fact Family	Addison Wesley Chapters 3,4,8, and 12 Classwork Project Assessment Suggestions: 1. Use counters to complete incomplete mathematical sentences on a tens frame. 2. Create story problems.	<i>Domino Addition</i> by Lynette Long
2.P.6 Write number sentences using =, -, <, =, and/or > to represent mathematical relationships in everyday situations.	Number Sentences Symbols Greater than Less than	The students will be able to: 1. Write and solve number sentences. 2. The students will be able to identify proper mathematical symbols. 3. Use counters and cubes to compare to construct and compare objects.	Addison Wesley Chapters 2,3,4,9,11,and 12 Classwork Project Assessment Suggestions: Match symbol to written text.	<i>Look Who's Counting</i> by Susan MacDonald

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		<u>Vocabulary</u> Addition sentence, plus, equals, subtraction sentence, minus, double		
2.P.7 Describe functions related to trading, including coin trades and measurement trades, e.g., five pennies make one nickel or four cups make one quart.	Trading Money Measurement	The students will be able to: 1. Trade coins for those of equivalent value. 2. Trade units of measurements for those of equal value. Vocabulary: Cup, pint, quart	Addison Wesley Chapter 10 Classwork Project Assessment Suggestions: 1. Collect pennies and then trade them for nickels when enough had been collected. 2. Add cups of water to pint containers to determine equivalency. 3. 3. Add pints of water to quart containers to determine equivalency.	

SUBJECT MATTER: Math – Geometry

Grade: 1

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2.G.1 Describe attributes and parts of two- and three- dimensional shapes, e.g., length of sides, and number of corners, edges, faces and sides.	Two dimension shapes Three dimensional shapes	The students will be able to: 1. Describe objects in their environment. 2. Make shapes. Vocabulary: Cube, cone, rectangular prism, sphere, cylinder, solid figure, flat surface, vertex, vertices, face, corner	Addison Wesley Chapter Assessment 5 Classwork Project Assessment Suggestions: Select solid geometric figures by listening to verbal descriptions given by the teacher.	<i>The Wing on a Flea</i> by Ed Emberley Investigations: Quilt, Squares, and Block Towns
2.G.2 Identify, describe, draw and compare two-dimensional shapes, including both polygonal (up to six sides) and curved figures such as circles.	Two dimensional shapes	The students will be able to: 1. Identify plane shapes. 2. Draw plane shapes. 3. Compare shapes to one another. Vocabulary: Plane shape, triangle, rectangle, circle, square, side	Addison Wesley Chapter Assessment 5 Oral responses Classwork Project Assessment Suggestions: Draw shapes on dry erase boards using verbal cues.	<i>Color Zoo</i> by Lois Ehlert Investigations: Quilt, Squares, and Block Towns

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.G.3 Recognize congruent shapes.</p>	<p>Congruent shapes</p>	<p>The students will be able to:</p> <ol style="list-style-type: none"> 1. Identify congruent shapes. 2. Use geoboards to make congruent shapes. <p>Vocabulary: Same size, same shape</p>	<p>Addison Wesley Chapter Assessment 5</p> <p>Classwork</p> <p>Project Assessment Suggestions: Work with a partner taking turns recreating shapes on a geoboard.</p>	<p>Investigations: Quilt, Squares, and Block Towns</p> <p>Primary Geoboard: Activity Book Grades K-3</p>
<p>2.G.4 Identify shapes that have rotated (turned), reflected (flipped), translated (slid), and enlarged. Describe directions of translations, e.g., left, right, up, down.</p>	<p>Shapes</p>	<p>The students will be able to:</p> <ol style="list-style-type: none"> 1. Identify shapes that have been manipulated. 2. Use directions (left, right, up, down) to describe altered objects. <p>Vocabulary: Side, flip, turn</p>	<p>Addison Wesley Chapter Assessment 5</p> <p>Classwork</p> <p>Project Assessment Suggestions: 1. Alter shapes by listening to directions given by the teacher. 2. Move about the room following directions.</p>	<p><i>Shapes, Shapes, Shapes</i> by Tana Hoban</p> <p>Tangram Animals A to Z</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.G.5 Identify symmetry in two-dimension shapes.</p>	<p>Symmetry Shapes</p>	<p>The students will be able to: 1. Identify symmetric shapes. 2. Draw lines of symmetry.</p> <p>Vocabulary: Symmetry, line of symmetry</p>	<p>Addison Wesley Chapter Assessment 5</p> <p>Classwork</p> <p>Project Assessment Suggestions: Cut paper shapes to show lines of symmetry.</p>	<p><i>Let's Fly a Kite</i> by Stuart J. Murphy <i>Autumn Leaves</i> by Ken Robbins</p>
<p>2.G.6 Predict the results of putting shapes together and taking them apart.</p>	<p>Shapes Prediction</p>	<p>The students will be able to: 1. Create pictures using pattern blocks. 2. Identify shapes within a pattern block puzzle.</p>	<p>Addison Wesley Chapter Assessment 5</p> <p>Classwork Project Assessment Suggestions: 1. Cover an outline shape using pattern blocks. 2. Create pattern block pictures.</p>	<p><i>Shapes, Shapes, Shapes</i> by Tana Hoban Investigations: Quilt, Squares, and Blocks</p>
<p>2.G.7 Relate geometric ideas to numbers, e.g., seeing rows in an array as a model of repeated addition.</p>	<p>Geometric ideas Numbers</p>	<p>The students will be able to: Relate geometric ideas to numbers.</p>	<p>Addison Wesley Chapters Assessments 8,10, and 12</p> <p>Classwork</p>	<p><i>The Greedy Triangle</i> by Marilyn Burns</p>

SUBJECT MATTER: Math – Measurement

Grade: 1

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2.M.1 Identify parts of the day (e.g., morning, afternoon, evening), days of the week, and months of the year. Identify dates on a calendar.	Calendar	The students will be able to: 1. Identify parts of the day, week, and months of the year. 2. Identify dates on a calendar. Vocabulary: Morning, afternoon, night, calendar, day, month, week, year	Addison Wesley Chapter Assessment 6 Identify the day and month on a calendar during math morning meeting. Read the date on a calendar. Oral Response Classwork	<i>Biscuit</i> by Alyssa Satin Capucilla Investigations: Bigger, Taller, Heavier and Smaller
2.M.2 Tell time at quarter-hour intervals on analog and digital clocks using a.m. and p.m.	Time	The students will be able to: 1. Match analog and digital time. 2. Identify minute and hour hands on the clock. 3. Correctly identify the time by quarter hour intervals. Vocabulary: Hour, hour hand, minute hand, o'clock, half hour, analog, digital, clock	Addison Wesley Chapter Assessment 6 Oral Response Classwork Project Assessment Suggestions: Create paper clocks.	<i>10 Minutes till Bedtime</i> by Peggy Rathman <i>Nine O'clock Lullaby</i> by Marilyn Singer <i>Hickory, Dickory, Dock</i> (poem) Investigations: Bigger, Taller, Heavier and Smaller

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.M.3 Compare the length, width, area, and volume of two or more objects by using direct comparison.</p>	<p>Length Width Area Volume</p>	<p>The students will be able to:</p> <ol style="list-style-type: none"> 1. Identify length, width, area and volume. 2. Compare the different lengths of measurement. 3. Use objects to measure length and width of items. <p>Vocabulary: Length, width, area, volume</p>	<p>Addison Wesley Chapter Assessment 10</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> 1. Place pencils in order of length (starting with shortest). 2. Use rulers to measure items around the classroom. 3. Create a Gallon Man. 	<p>Gallon Man</p> <p>Investigations: Bigger, Taller, Heavier and Smaller</p>
<p>2.M.4 Measure and compare common objects using metric and English units of length measurement, e.g., centimeter, inch.</p>	<p>Metric and English Measurement</p>	<p>The students will be able to: Measure items suing metric and English measurement.</p> <p>Vocabulary: Inch, foot, centimeter</p>	<p>Addison Wesley Chapter Assessment 10</p> <p>Classwork</p> <p>Project Assessment Suggestions:</p> <ol style="list-style-type: none"> 1. Measure items in crayon box using a ruler. 2. Measure students' height on a growth chart. 	<p>Investigations: Bigger, Taller, Heavier and Smaller</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2.M.5 Select and correctly use the appropriate measurement tools, e.g., ruler, balance scale, thermometer.</p>	<p>Measurement Tools</p>	<p>The students will be able to: 1. Identify measurement tools. 2. Use different tools to measure items.</p> <p>Vocabulary: Inch, foot, centimeter</p>	<p>Addison Wesley Chapter Assessment 10</p> <p>Classwork</p> <p>Project Assessment Suggestions: Measure a cup of water by weight, volume and temperature.</p>	<p><i>Read-Think-Do Math: Measuring Book 1</i> by Teacher Created Resources</p> <p>Investigations: Bigger, Taller, Heavier and Smaller</p>
<p>2.M.6 Make and use estimates of measurement, including time, volume, weight and area.</p>	<p>Estimation</p>	<p>The students will be able to: Estimate the measurement of objects.</p> <p>Vocabulary: Minute, inch, foot, centimeter, cup, pint, quart, liter, pound, gram, kilogram, thermometer, temperature</p>	<p>Addison Wesley Chapters Assessments 6 and 10</p> <p>Classwork</p> <p>Project Assessment Suggestions: Predict the length of a piece of yarn, the weight of an apple and the volume of a glass of water.</p>	<p><i>Chicken Soup with Rice</i> by Maurice Sendak</p> <p>Investigations: Bigger, Taller, Heavier and Smaller</p>

SUBJECT MATTER: Math – Data Analysis, Statistics, and Probability

Grade: 1

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2.D.1 Use interviews, surveys, and observations to gather data about themselves and their surroundings.	Data Observations Surveys	The students will be able to: 1. Gather data from others and themselves. 2. Interpret data to answer questions.	Addison Wesley Chapter 10 Assessment Oral responses Project Assessment Suggestions: 1. Use outside weather observations to create a weather graph. 2. Create a graph reflecting favorite colors.	Graphs Weather charts Investigations: Survey Questions and Secret Rules
2.D.2 Organize, classify, represent, and interpret data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representation.	Tallies Charts Classification Graphs	The students will be able to: 1. Represent collected data on a multitude of graphic organizers. 2. Interpret data on different types of graphic organizers. 3. Distinguish the different uses of graphic organizers. Vocabulary: Picture graph, bar graph, graph, tally mark, change, equal share, more likely, less likely	Addison Wesley Chapter Assessments 5,6,7,8,9,10,and 12 Oral responses Project Assessment Suggestions: 1. Answer questions by reading data on different graphs. 2. Work with a partner in using a Venn Diagram to report the	Investigations: Survey Questions and Secret Rules

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			differences between themselves and their partner. 3. Record the weather for each school day on a weather pictograph.	
2.D.3 Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data.	Inferences Guessing	The students will be able to: 1. Make educated guesses using information gathered from data. 2. Draw conclusions bases on information gathered from date.	Addison Wesley Chapter Assessments 1,10 and 12 Oral responses Project Assessment Suggestions: Use a temperature and weather chart to predict the temperature for a given day.	Weather chart Investigations: Survey Questions and Secret Rules
2.D.4 Decide which outcomes of experiments are most likely.	Predicting	The students will be able to: Make predictions based on information and information given. Vocabulary: graph	Addison Wesley Chapter Assessment 10 Project Assessment Suggestions: Guess the outcome of picking a colored tile out of a brown paper bag.	Investigations: Survey Questions and Secret Rules

SUBJECT MATTER: Mathematics: Number Sense and Operations

Grade 2

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			District-Wide Assessment GMADE Fall/Spring	Scott Foresman Addison Wesley Mathematics Text
2. N.1 Name and write (in numerals) whole numbers to 1000, identify the place values of the digits, and order the numbers.	Place value to 1000	<p>Students will be able to:</p> <ol style="list-style-type: none"> Name, write, and order whole numbers to 1000. Relate number words to the numerals that represent the quantities 0-100. Demonstrate an understanding of place value---ones, tens, and hundreds. Identify the place value of any digit in numbers up to 999. Write a numeral to 999 in expanded notation (237 is 2 hundreds, 3 tens, and 7 ones or $200 + 30 = 7$). <p>Vocabulary: Hundreds, thousands, three-digit number, digit, expanded form, standard form, number word, mental math, before, after, between, order, least, greatest, tens, ones, greater than (>), less than (<), equal to (=)</p>	Classwork Observations Questioning Chapter 3 Test Chapter 10 Test Problem of the Day	Manipulatives <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>Roman Numerals I to MM</u> by Arthur Geisert <u>From One to One Hundred</u> by Teri Sloat <u>How Much, How Many, How Far, How Heavy, How Long, How Tall is 1000</u> by Helen Nolan <u>Every Buddy Counts</u> by Stuart J. Murphy <u>The Blast Off Kid</u> by Laura Driscoll

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2. N.2 Identify and distinguish among multiple uses of numbers, including cardinal (to tell how many) and ordinal (to tell which one in an ordered list), and numbers as labels and as measurements.</p>	<p>Uses of Numbers</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Use cardinal numbers to count how many. 2. Use ordinal numbers 1st to 20th. 3. Tell what kind of number label is required in a word problem. <p>Vocabulary: ordinal number</p>	<p>Classwork Observations Questioning Chapter 3 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Where's Harley</u> by Carol and Amanda Felton</p> <p><u>Henry the Fourth</u> by Stuart J. Murphy</p>
<p>2. N.3 Identify and represent common fractions (1/2, 1/3, 1/4) as parts of wholes, parts of groups, and numbers on the number line.</p>	<p>Fractions</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Identify halves, thirds, fourths, fifths, and sixths as parts of wholes. 2. Identify halves, thirds, and fourths as parts of sets. 3. Draw and label halves, thirds, fourths, fifths, and sixths. 4. Explain why an object would need to be divided into halves, thirds, and fourths. <p>Vocabulary: equal, halves, thirds, fourths, unequal, fraction</p>	<p>Classwork Observations Questioning Chapter 7 Test Problem of the Day</p> <p><u>Project Assessment</u> Each student will create a flag using 6-10 colored squares of 2-4 different colors. They will then write the fractions for the different colored parts.</p>	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Shapes, Halves, and Symmetry Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Eating Fractions</u> by Bruce McMillan</p> <p><u>Clean-Sweep Campers</u> by Lucille Recht Penner</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
				<p><u>Give Me Half</u> by Stuart J. Murphy</p> <p><u>The Hershey's Milk Chocolate Fractions Book</u> by Jerry Pallotta</p>
<p>2. N.4 Compare whole numbers using terms and symbols, e.g., less than, equal to, greater than (<, =, >).</p>	<p>Comparing Numbers</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Compare two- and three-digit numbers using the symbols >, <, =. 2. Compare the value of two sets of coins. 3. Write number sentences using the terms “greater than”, “less than”, or “equal to” to compare numbers. <p>Vocabulary: compare, equals (=), greater than (>), less than (<)</p>	<p>Classwork Observations Questioning Chapter 3 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Just Enough Carrots</u> by Stuart J. Murphy</p>
<p>2. N.5 Identify odd and even numbers and determine whether a set of objects has an odd or even number of elements.</p>	<p>Odd and Even Numbers</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Skip count by twos to 100. 2. Identify whether a set of objects has an odd or even number of items. 3. Identify whether a numeral up to 100 is odd or even. <p>Vocabulary: even, odd</p>	<p>Classwork Observations Questioning Chapter 3 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2. N.6 Identify the value of all U.S. coins, and \$1, \$5, \$10, and \$20 bills. Find the value of a collection of coins and dollar bills and different ways to represent an amount of money up to \$5. Use appropriate notation, e.g., 69¢, \$1.35.</p>	<p>Money</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Identify the value of all coins. 2. Relate skip counting to pennies, nickels, and dimes. 3. Count coin collections up to \$1.00. 4. The student will be able to use different coins to show the same amount. 5. The student will be able to compare the values of two sets of coins. 6. The student will be able to count on from the price of an object up to the amount paid in order to make change. <p>Vocabulary: price, change, coin, cent, dime, nickel, penny, quarter, half-dollar, greatest value, least value, table, tally mark, record, dollar bill, dollar coin, dollar sign (\$), decimal point (.)</p>	<p>Classwork Observations Questioning Chapter 3 Test Problem of the Day</p> <p><u>Project Assessment</u> Each student will select a coupon from \$.25 to \$1.00 and paste it on the top of a paper. They will then stamp or draw coins to make that amount of money in at least five different ways.</p>	<p>Manipulatives</p> <p><u>Math By All Means</u> by Marilyn Burns Money Grades 1-2</p> <p><u>Investigations in Number, Data, and Space: Coins, Coupons, and Combinations Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Tightwad Tod</u> by Daphne Skinner</p> <p><u>Pigs Will be Pigs</u> by Amy Axelrod</p>
<p>2. N.7 Demonstrate an understanding of various meanings of addition and subtraction, e.g., addition as combination (plus, combined with, more); subtraction as comparison (how much less, how much more), equalizing (how many more are needed to make these equal), and separation (how much</p>	<p>Meanings of Addition and Subtraction</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Model the meaning of addition by combining sets. 2. Commutative property to find sums. 3. Model three meanings of subtraction: separating sets, comparing sets, and missing addends. 4. Determine which operation to 	<p>Classwork Observations Questioning Chapter 1 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Putting Together and Taking Apart Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
remaining).		<p>use when solving story problems.</p> <p>Vocabulary: add, join, in all, take away, subtract, more, compare, related fact</p>		<p>Press</p> <p><u>Each Orange Had 8 Slices</u> by Paul Giganti, Jr.</p> <p><u>Mission: Addition</u> by Loreen Leedy</p>
<p>2. N.8 Understand and use the inverse relationship between addition and subtraction (e.g., $8 + 6 = 14$ is equivalent to $14 - 6 = 8$ and is also equivalent to $14 - 8 = 6$) to solve problems and check solutions.</p>	<p>Inverse Relationship of Addition and Subtraction</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Find differences by using known addition facts. 2. Write the addition and subtraction sentences that make up a fact family. 3. Relate addition to subtraction by using addition to check subtraction answers. <p>Vocabulary: fact family</p>	<p>Classwork Observations Questioning Chapter 1 Test Chapter 2 Test Chapter 6 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Putting Together and Taking Apart Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p>
<p>2. N.9 Know addition facts (addends to ten) and related subtraction facts, and use them to solve problems.</p>	<p>Addition and Subtraction Facts</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Join two groups together and write an addition sentence to tell how many. 2. Recognize facts that have sums of 10. 3. Use strategies to remember facts. 4. Know addition facts to remember subtraction facts. 5. Write subtraction sentences to solve both separation and comparison problems. 	<p>Classwork Observations Questioning Chapter 2 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Putting Together and Taking Apart Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>The Mad Minute: A Race to Master the Number Facts</u> Dale Seymour</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		Vocabulary: Plus (+), equals (=), addend, sum, addition sentence, altogether, minus (-), subtraction sentence, difference, separate, addition, subtraction, related fact, fact family, add on, count on, doubles fact, addition fact, doubles plus 1, number sentence, count back, subtract		Publications <u>Elevator Magic</u> by Stuart J. Murphy <u>88 Pounds of Tomatoes</u> by Cindy Neuschwander <u>Lights Out!</u> By Lucille Recht Penner <u>Animals on Board</u> by Stuart J. Murphy <u>Double the Ducks</u> by Stuart J. Murphy
2. N.10 Demonstrate the ability to add and subtract three-digit numbers accurately and efficiently.	Addition and Subtraction of 3-Digit Numbers	The student will be able to: 1. Add and subtract multiples of 10 or 100 to and from a 3-digit number without regrouping. 2. Add 3-digit numbers mentally without regrouping. 3. Use place-value models to add or subtract two 3-digit numbers with regrouping. 4. Paper and pencil to add or subtract two 3-digit numbers with one regrouping. Vocabulary: chart, data, three-digit number, regroup	Classwork Observations Questioning Chapter 11 Test Problem of the Day	Manipulatives <u>Investigations in Number, Data, and Space: Putting Together and Taking Apart Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press
2. N.11 Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition (two 3-digit	Using Algorithms for Addition and Subtraction	The student will be able to: 1. Use the standard algorithm to add 3-digit numbers with regrouping.	Classwork Observations Questioning Chapter 5 Test	Manipulatives <u>Investigations in Number, Data, and Space: Putting Together and Taking</u>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>numbers and three 2-digit numbers) and subtraction (two 3-digit numbers).</p>		<ol style="list-style-type: none"> 2. Add three 2-digit numbers. 3. Use the standard algorithm to subtract 3-digit numbers with regrouping. 	<p>Chapter 6 test Chapter 11 Test Problem of the Day</p>	<p><u>Apart Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>A Collection for Kate</u> by Barbara deRubertis</p>
<p>2. N.12 Estimate, calculate, and solve problems involving addition and subtraction of two-digit numbers. Describe differences between estimates and actual calculations.</p>	<p>Estimating and Solving 2-Digit Addition and Subtraction Problems</p>	<p>The student will be able to</p> <ol style="list-style-type: none"> 1. Add or subtract a multiple of 10 to or from a 2-digit number using models or mental math. 2. Estimate the sum or difference of two 2-digit numbers. 3. The standard algorithms to add or subtract two 2-digit numbers with or without regrouping. 4. Solve multi-step problems using addition and subtraction. 5. A variety of methods and tools to facilitate computation (estimation, mental math, paper and pencil, calculators). <p>Vocabulary: mental math, ones digit, tens digit, estimate, more, less, revise, add, regroup, sum, two-digit number, table, data, subtract, difference, number sentence, fact, price, change, information</p>	<p>Classwork Observations Questioning Chapter 5 Test Chapter 6 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>The Long Wait</u> by Annie Cobb</p> <p><u>Betcha!</u> By Stuart J. Murphy</p>

SUBJECT MATTER: Math – Patterns, Relationships, and Algebra

Grade: 2

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. P.1 Identify, reproduce, describe, extend, and create simple rhythmic, shape, size, number, color, and letter repeating patterns.	Patterns	The student will be able to: Identify, extend, and construct a variety of patterns.	Classwork Observations Questioning Problem of the Day	Manipulatives <u>Investigations in Number, Data, and Space: Timelines and Rhythm Patterns Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>What’s Next, Nina?</u> by Sue Kassiner
2. P.2 Identify different patterns on the hundreds chart.	Patterns on a Hundreds Chart	The student will be able to: Use a hundreds chart to explore, identify, and illustrate patterns in number relationships. Vocabulary: before, after, between, skip counting, pattern, even, odd	Classwork Observations Questioning Chapter 3 Test Problem of the Day	Manipulatives <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. P.3 Describe and create addition and subtraction number patterns, e.g., 1, 4, 7, 10 . . . ; or 25, 23, 21	Number Patterns	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Discover a numeric pattern made by repeatedly adding or subtracting the same number. 2. Identify and extend growth or diminishing numerical patterns up to 100. 3. Identify the rule being used in a growth or diminishing pattern up to 100. <p>Vocabulary: pattern, increase, decrease</p>	Classwork Observations Questioning Chapter 3 Test Problem of the Day	<p>Manipulatives</p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p>
2. P.4 Skip count by twos, fives, and tens up to at least 50, starting at any number.	Skip Counting	<p>The student will be able to:</p> <p>Skip count by twos, fives, and tens up to 100 starting at any number.</p> <ol style="list-style-type: none"> 1. Skip count forwards and backwards by ones up to 1000. 2. Recognize and extend skip counting patterns. <p>Vocabulary: tens, ones, skip counting, pattern</p>	Classwork Observations Questioning Chapter 3 Test Problem of the Day	<p>Manipulatives</p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Stay in Line</u> by Teddy Slater</p> <p><u>Count on Pablo</u> by Barbara deRubertis</p> <p><u>The Cheerios Counting Book</u> by Barbara Barbieri McGrath</p> <p><u>Spunky Monkeys on Parade</u> by Stuart J. Murphy</p> <p><u>Arctic Fives Arrive</u> by Elinor J. Pinczes</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
				<u>Reese's Pieces Count by Fives</u> by Jerry Pallotta
2. P.5 Construct and solve open sentences that have variables, e.g., $n + 7 = 10$.	Algebra Missing Addends	The student will be able to: <ol style="list-style-type: none"> 1. Use counters to find the missing addend in an addition sentence. 2. Use data in pictures to help find missing numbers in number sentences. 	Classwork Observations Questioning Chapter 1 Test Problem of the Day	Manipulatives <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press
2. P.6 Write number sentences using $+$, $-$, $<$, $=$, and/or $>$ to represent mathematical relationships in everyday situations.	Story Problems	The student will be able to: <ol style="list-style-type: none"> 1. Solve a story problem by writing an addition or subtraction sentence. 2. Develop a story problem that illustrates a given addition or subtraction number sentence. Vocabulary: number sentence, fact, plus (+), equals (=), addend, sum, addition sentence, altogether, minus (-), subtraction sentence, difference, separate, addition, subtraction, doubles fact, addition fact	Classwork Observations Questioning Chapter 1 Test Chapter 2 Test Problem of the Day	Manipulatives <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>Ready, Set, HOP!</u> by Stuart J. Murphy

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. P.7 Describe functions related to trading, including coin trades and measurement trades, e.g., five pennies make one nickel or four cups make one quart.	Trading in Money and Measurement	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Compare capacities of cups, pints, and quarts. 2. Explain the equivalencies for amounts of money up to \$1.00 using combinations of coins. 3. Change inches to feet and feet to yards. <p>Vocabulary: Cup (c.), pint (pt.), quart (qt.), dollar, bill, dollar coin, dollar sign (\$), decimal point (.)</p>	Classwork Observations Questioning Chapter 3 Test Chapter 9 Test Problem of the Day	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: How Long? How Far? Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>The Best Bug Parade</u> by Stuart J. Murphy</p>



SUBJECT MATTER: Math – Geometry

Grade: 2

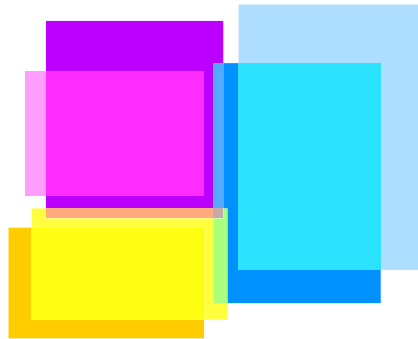
Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. G.1 Describe attributes and parts of two- and three-dimensional shapes, e.g., length of sides, and number of corners, edges, faces, and sides.	Plane and Solid Figures	<p>The student will be able to:</p> <ol style="list-style-type: none">1. Identify solid figures and count their vertices, flat surfaces, and edges.2. Match the flat surfaces of solid figures to plane figures. <p>Vocabulary: solid figure, cube, rectangular, prism, sphere, pyramid, cylinder, cone, flat surface, vertex, vertices, edge, plane shape, circle, square, triangle, rectangle, trapezoid, parallelogram, hexagon, side, angle</p>	Classwork Observations Questioning Chapter 7 Test Problem of the Day	Manipulatives <u>Investigations in Number, Data, and Space: Shapes, Halves, and Symmetry Grade 2</u> <u>Investigations in Number, Data, and Space: How Long? How Far?</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>Math By All Means</u> by Marilyn Burns Geometry Grade 2 <u>Shapes, Shapes, Shapes</u> by Tana Hoban <u>Kitten Castle</u> by Mel Friedman and Ellen Weiss <u>The Greedy Triangle</u> by Marilyn Burns <u>A Cloak for the Dreamer</u> by Marilyn Burns <u>When a Line Ends ... A Shape Begins</u> by Rhonda Gowler Greene

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. G.2 Identify, describe, draw, and compare two-dimensional shapes, including both polygonal (up to six sides) and curved figures such as circles.	Plane and Solid Shapes	<p>The student will be able to</p> <ol style="list-style-type: none"> 1. Solve problems by matching solid figures with their two-dimensional nets. 2. Recognize and name trapezoids, parallelograms, and hexagons and identify the number of sides and angles in a polygon. 	<p>Classwork Observations Questioning Chapter 7 Test Problem of the Day</p> <p><u>Project Assessment</u> Each student will create a design using 4-6 pattern blocks. They will recreate it on paper using pattern block stickers or by tracing and coloring. They will record the angles and sides of the shape.</p>	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Shapes, Halves, and Symmetry Grade 2</u></p> <p><u>Investigations in Number, Data, and Space: How Long? How Far?</u></p> <p><u>Math By All Means</u> by Marilyn Burns Geometry Grade 2</p>
2. G.3 Recognize congruent shapes.	Congruency	<p>The student will be able to: Identify and create congruent shapes.</p> <p>Vocabulary: Congruent</p>	<p>Classwork Observations Questioning Chapter 7 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Shapes, Halves, and Symmetry Grade 2</u></p> <p><u>Investigations in Number, Data, and Space: How Long? How Far? Grade 2</u></p> <p><u>Math By All Means</u> by Marilyn Burns Geometry Grade 2</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
				<u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press
2. G.4 Identify shapes that have been rotated (turned), reflected (flipped), translated (slid), and enlarged. Describe direction of translations, e.g., left, right, up, down.	Transformations	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Perform a slide, flip, or turn on an object and identify the resulting orientation. 2. Look at a pattern of flips, turns, or slides and predict the next position. <p><u>Vocabulary:</u> Flip, slide, turn</p>	Classwork Observations Questioning Chapter 7 Test	Manipulatives <u>Investigations in Number, Data, and Space: Shapes, Halves, and Symmetry Grade 2</u> <u>Investigations in Number, Data, and Space: How Long? How Far? Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>Math By All Means</u> by Marilyn Burns Geometry Grade 2

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. G.5 Identify symmetry in two-dimensional shapes.	Symmetry	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Identify and create symmetrical shapes. 2. Draw multiple lines of symmetry. 3. Discover objects in their environment that have symmetry. <p>Vocabulary: Line of symmetry</p>	Classwork Observations Questioning Chapter 7 Test Problem of the Day	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Shapes, Halves, and Symmetry Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Math By All Means</u> by Marilyn Burns Geometry Grade 2</p>
2. G.6 Predict the results of putting shapes together and taking them apart.	Combining and Separating Shapes	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Create a specific shape using smaller shapes (tangrams or pattern blocks). 2. Predict which shapes can and cannot be created by putting shapes together or taking them apart. <p>Vocabulary: trapezoid, parallelogram, hexagon, side, angle</p>	Classwork Observations Questioning Chapter 7 Test Problem of the Day	<p>Manipulatives</p> <p><u>Investigations in Number, Data, and Space: Shapes, Halves, and Symmetry Grade 2</u></p> <p><u>Investigations in Number, Data, and Space: How Long? How Far? Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Math By All Means</u> by Marilyn Burns Geometry Grade 2</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. G.7 Relate geometric ideas to numbers, e.g., seeing rows in an array as a model of repeated addition.	Arrays and Repeated Addition	The student will be able to solve a repeated addition problem using an array.	Classwork Observations Questioning Chapter 12 Test Problem of the Day	Manipulatives <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>Amanda Bean's Amazing Dream</u> by Marilyn Burns <u>One Hundred Hungry Ants</u> by Elinor Pinczes



SUBJECT MATTER: Math – Measurement

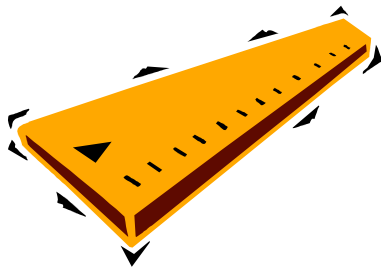
Grade: 2

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. M.1 Identify parts of the day (e.g., morning, afternoon, evening), days of the week, and months of the year. Identify dates using a calendar.		<p>The student will be able to:</p> <ol style="list-style-type: none">1. Relate days, weeks, months, and dates to a calendar.2. Sequence a series of events of a day in order by time.3. Identify whether events occur in the A.M. or P.M. hours. <p>Vocabulary: midnight, noon, A.M., P.M., calendar</p>	Classwork Observations Questioning Chapter 8 Test Problem of the Day	Manipulatives <u>Investigations in Number, Data, and Space: Timelines and Rhythm Patterns Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>Pepper’s Journal</u> by Stuart J. Murphy <u>It’s About Time, Max</u> by Kitty Richards
2. M.2 Tell time at quarter-hour intervals on analog and digital clocks using a.m. and p.m.:		<p>The student will be able to:</p> <ol style="list-style-type: none">1. Tell time to five-minute intervals using both analog and digital clocks.2. Estimate whether an activity takes minutes, hours, or days to complete.3. Solve problems involving elapsed time to the hour.4. Give equivalent times. <p>Vocabulary: hour hand, minute hand, hour, half hour, quarter past, half past, after, before, quarter to, midnight, noon,</p>	Classwork Observations Questioning Chapter 8 Test Problem of the Day <u>Project Assessment</u> Each student will create a time book of a day in their life. They will include at least eight activities from their day. They will include analog and digital times, a	Manipulatives <u>Investigations in Number, Data, and Space: Timelines and Rhythm Patterns Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>Clocks and More Clocks</u> by Pat Hutchins

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		A.M., P.M.	sentence explaining the activity and an illustration. There should not be more than three times to the hour and half-hour.	<u>Game Time</u> by Stuart J. Murphy <u>What Time Is It?</u> By Sheila Keenan
2. M.3 Compare the length, weight, area, and volume of two or more objects by using direct comparison.	Measurement Comparisons	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Measure and order objects by their capacities using nonstandard and standard units of measure. 2. Put objects in order by length, weight, area, or volume by directly comparing them. <p>Vocabulary: capacity, weight</p>	Classwork Observations Questioning Chapter 9 Test Problem of the Day	Manipulatives <u>Math By All Means</u> by Marilyn Burns Measurement Grades 1-2 <u>Investigations in Number, Data, and Space: How Long? How Far? Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2. M.4 Measure and compare common objects using metric and English units of length measurement, e.g., centimeter, inch.</p>	<p>Linear Measurement</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Measure the lengths or heights of objects in inches, feet, yards, centimeters, and meters. 2. Compare linear measurements to find out which is longer or shorter. <p>Vocabulary: ruler, inch (in.), foot (ft.), yard (yd.), width, yardstick, centimeter (cm.), meter (m), centimeter ruler, meterstick</p>	<p>Classwork Observations Questioning Chapter 9 Test Problem of the Day</p> <p><u>Project Assessment</u> A basket of standard size objects will be available to the students. Students will select five of the objects and measure to the nearest inch and measure again to the nearest centimeter.</p>	<p>Manipulatives</p> <p><u>Math By All Means</u> by Marilyn Burns Measurement Grades 1-2</p> <p><u>Investigations in Number, Data, and Space: How Long? How Far? Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Length</u> by Henry Pluckrose</p> <p><u>Keep Your Distance</u> by Gail Herman</p> <p><u>Measuring Penny</u> by Loreen Leedy</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>2. M.5 Select and correctly use the appropriate measurement tools, e.g., ruler, balance scale, thermometer.</p>	<p>Measurement Tools</p>	<p>The student will be able to:</p> <ol style="list-style-type: none"> 1. Select and use the correct tool to measure length, weight, and temperature. 2. Read and write temperatures shown on Fahrenheit and Celsius thermometers. <p>Vocabulary: ruler, inch (in.), foot (ft.), yard (yd.), width, yardstick, , centimeter (cm.), meter (m), centimeter ruler, meterstick</p>	<p>Classwork Observations Questioning Chapter 9 Test Problem of the Day</p>	<p>Manipulatives</p> <p><u>Math By All Means</u> by Marilyn Burns Measurement Grades 1-2</p> <p><u>Investigations in Number, Data, and Space: How Long? How Far? Grade 2</u></p> <p><u>Read It! Draw It! Solve It!</u> Dale Seymour Publications</p> <p><u>Daily Mental Math</u> World Teachers Press</p> <p><u>Room for Ripley</u> by Stuart J. Murphy</p> <p><u>The 100-Pound Problem</u> by Jennifer Dussling</p>

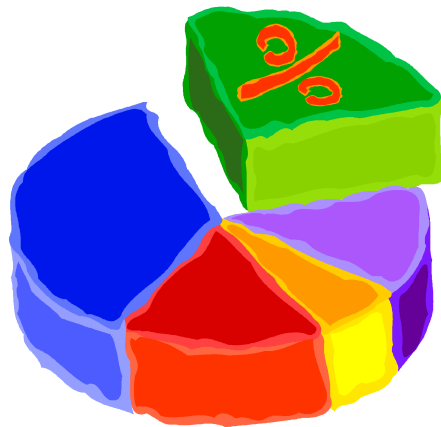


SUBJECT MATTER: Math – Data Analysis, Statistics, and Probability**Grade: 2**

Standard	Content	Skills	Assessment	Teacher Resources & Notes
2. D.1 Use interviews, surveys, and observations to gather data about themselves and their surroundings.	Data Collection	The student will be able to: Collect data by using a survey. Vocabulary: survey, data, Venn diagram, pictograph, bar graph	Classwork Observations Questioning Chapter 8 Test Problem of the Day	Manipulatives <u>Investigations in Number, Data, and Space: Does It Walk, Crawl, or Swim? Grade 2</u> <u>Investigations in Number, Data, and Space: How Many Pockets? How Many Teeth? Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press <u>The Best Vacation Ever</u> by Stuart J. Murphy
2. D.2 Organize, classify, represent, and interpret data using tallies, charts, tables, bar graphs, pictographs, and Venn diagrams; interpret the representations.	Construct and Analyze Tables, Charts, and Graphs	The student will be able to: 1. Collect data, use tally marks, and organize the data in a Venn Diagram, pictograph, or bar graph. 2. Use the data to solve a simple problem. 3. Solve a problem by creating an organized list. 4. Use the concepts of most, least, largest, smallest, more, less, more often, least often to read and interpret graphs.	Classwork Observations Questioning Chapter 8 Test Problem of the Day <u>Project Assessment</u> Each student will create their own survey and make a graph to display the data.	Manipulatives <u>Investigations in Number, Data, and Space: Does It Walk, Crawl, or Swim? Grade 2</u> <u>Investigations in Number, Data, and Space: How Many Pockets? How Many Teeth? Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		Vocabulary: chart, data, survey, Venn diagram, pictograph, bar graph, predict, more likely, less likely, equally likely, organized list, table, tally mark, record		<u>Daily Mental Math</u> World Teachers Press <u>Tiger Math</u> by Ann Whitehead <u>Fair is Fair!</u> By Jennifer Dussling <u>Lemonade for Sale</u> by Stuart J. Murphy
2. D.3 Formulate inferences (draw conclusions) and make educated guesses (conjectures) about a situation based on information gained from data.	Interpret Data	The student will be able to: Predict the outcome of simple experiments. Vocabulary: more likely, less likely, equally likely	Classwork Observations Questioning Chapter 8 Test Problem of the Day	Manipulatives <u>Investigations in Number, Data, and Space: Does It Walk, Crawl, or Swim? Grade 2</u> <u>Investigations in Number, Data, and Space: How Many Pockets? How Many Teeth? Grade 2</u> <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press
2. D.4 Decide which outcomes of experiments are most likely.	Probability	The students will be able to: 1. Analyze data collected from performing an experiment using “certain”, “probable”, or “impossible”. 2. Predict what the results might be when using spinners divided in various ways. Vocabulary:	Classwork Observations Questioning Chapter 9 Test Problem of the Day	Manipulatives <u>Math By All Means</u> by Marilyn Burns Probability Grades 1-2 <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Daily Mental Math</u> World Teachers Press

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		certain, probable, impossible, more likely, less likely, equally likely		<u>Bad Luck Brad</u> by Gail Herman <u>Probably Pistachio</u> by Stuart J. Murphy



SUBJECT MATTER: Number Sense and Operations

Grade: 3

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>Numeration</p> <p>Number Theory</p>	<p>Students will be able to:</p> <p>Count, read, write, rename, compare, and order whole numbers through 9,999</p>		<p>Scott Foresman/Addison Wesley <u>Mathematics</u> (“Addison Wesley”) Pre-test</p> <p>Addison Wesley Chapter Test (For 3. N. 1.: Chapter 1 Test)</p> <p>Daily Mental Math weekly tests</p> <p>MCAS Chapter quizzes</p> <p>MCAS test questions</p> <p>Addison Wesley problems of the day</p> <p>Formative assessment in the form of teacher observation, questioning, class participation, checklists, daily classwork, exit cards</p>	<p>Addison Wesley <u>Mathematics</u></p> <p>Addison Wesley teacher resources:</p> <ul style="list-style-type: none"> • Problem-solving workbook • Enrichment workbook • Spiral review and test prep workbook • ESL workbook <p>Investigations (“Investigations”) – supplementary manipulative program</p> <p><u>Daily Mental Math</u> World Teachers Press – daily skill practice in a cumulative format</p> <p>Addison Wesley problems of the day</p> <p>Read It! Draw It! Solve It! Dale Seymour Publications – problems of the day</p> <p><u>Mad Minute</u> – addition and multiplication timed practice booklet</p> <p>Vocabulary – period, digit, place value, expanded form, standard form, word form Literature: <u>Ziping, Zapping, Zooming</u> by Ann Earle (New York: Harper Collins Children’s Books) 1995</p>

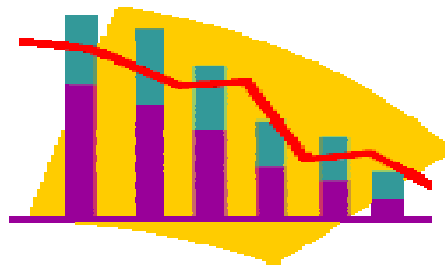
Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>3.N.2. Represent, order, and compare numbers through 9,999. Represent numbers using expanded notation, e.g., $853 = 8 \times 100 + 5 \times 10 + 3$, and written out in words, e.g., eight hundred fifty-five</p>	<p>Numeration Number Theory</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Compare whole numbers to 9,999 2. Order whole numbers to 9,999 3. Read and write numbers in standard, expanded, and word form through 9,999 	<p>Addison Wesley Pre-test and Chapter Test 1</p> <p>Daily Mental Math</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p>Daily Mental Math</p> <p>Read It! Draw It! Solve It!</p> <p>Manipulatives</p> <p>Vocabulary – period, digit, place value, expanded form, standard form, word form</p> <p>Literature: <u>Sports Facts</u> by Norman Barrett (New York: Dorling Kindersley Publishing, Inc.) 1996</p>
<p>3.N.3. Identify and represent fractions between 0 and 1 with denominators through 10 as parts of unit wholes and parts of groups.</p>	<p>Numeration Fractions</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Identify and draw fractional parts of regions 2. Identify and draw fractional parts of groups/sets 	<p>Addison Wesley Pre-test and Chapter Test 9</p> <p>Daily Mental Math</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p>Daily Mental Math</p> <p>Read It! Draw It! Solve It!</p> <p>Manipulatives</p> <p>Vocabulary: Fraction, numerator, denominator</p> <p>Literature: <u>Fractions Are Parts of Things</u> by J. Richard Dennis (New York: HarperCollins Children’s Books) 1972</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
3.N.4 Locate on the number line and compare fractions (between 0 and 1 with denominators 2, 3, or 4, e.g., 2.3).	Fractions Number Theory	Students will be able to: Locate and compare fractions on a number line from 0 to 1	Addison Wesley Pre-test and Chapter Test 9 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Manipulatives Vocabulary: Equivalent fractions, unit fractions
3.N.5 Recognize classes to which a number may belong (odd numbers, even numbers, and multiples of numbers through 10). Identify the numbers in those classes, e.g., the class of multiples of 7 between 1 and 29 consists of 7, 14, 21, 28.	Number Theory	Students will be able to: 1. Identify odd and even numbers 2. Identify multiples of numbers/skip counting through 10	Addison Wesley Pre-test and Chapter Test 5 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Even numbers, odd numbers, multiples Literature: <u>Two Ways to Count to Ten</u> by Ruby Dee (New York: Henry Holt and Company) 1990

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>3.N.6 Select, use, and explain various meanings and models of multiplication (through 10). Relate multiplication problems to corresponding division problems, e.g., draw a model to represent $5 \cdot 6$ and $30 \div 6$.</p>	<p>Number Theory Multiplication</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Write multiplication and division number sentences for given situations 2. Write multiplication sentences for arrays and use arrays to find multiplication facts 3. Identify and write multiplication and division fact families 4. Use counters and other manipulatives to show multiplication and division facts 	<p>Addison Wesley Pre-test and Chapter Tests 5 and 6</p> <p>Daily Mental Math</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p>Daily Mental Math</p> <p>Read It! Draw It! Solve It!</p> <p>Manipulatives</p> <p>Vocabulary: Multiplication, division, factor, product, multiply, divide, array, Commutative (Order) Property of Multiplication, Identity (One) Property of Multiplication, Zero Property or Multiplication</p> <p>Literature: <u>Times Tables!</u> by Wendy Clemson (New York: Dorling Kindersley Publishing, Inc.) 1996</p> <p><u>One Hungry Monster: A Counting Book in Rhyme</u> by Susan Heyboer O’Keefe (Boston: Little, Brown, and Company) 1989</p> <p><u>A Remainder of One</u> by Elinor J. Pinczes (Boston: Houghton Mifflin Company) 1995</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>3.N.7 Use the commutative (order) and identity properties of addition and multiplication on whole numbers in computations and problem situations, e.g., $3 + 4 + 7 = 3 + 7 + 4 = 10 + 4$.</p>	<p>Number Theory Addition Multiplication</p>	<p>Students will be able to: Use the commutative properties of addition and multiplication in computation and word problems</p>	<p>Addison Wesley Pre-test and Chapter Test 2, 5, and 6 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment</p>	<p>Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Commutative (Order) Properties of Addition and Multiplication, Identity Property of Multiplication</p>
<p>3.N.8 Select and use appropriate operations (addition, subtraction, multiplication, and division) to solve problems, including those involving money. <i>This standard is intentionally the same as standard 4.N.10.</i></p>	<p>Number Theory Operations</p>	<p>Students will be able to: Find the appropriate operation to solve given word problems</p>	<p>Addison Wesley Pre-test and Chapter Tests 2, 3, 5, 6, and 7 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment</p>	<p>Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives</p>
<p>3.N.9 Know multiplication facts through $10 \cdot 10$ and related division facts, e.g., $9 \cdot 8 = 72$ and $72 \div 9 = 8$. Use these facts to solve related problems, e.g., $3 \cdot 5$ is related to $3 \cdot 50$.</p>	<p>Number Theory Multiplication</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Know and use the multiplication facts through 10×10 to solve problems 2. Know related division facts and use them to solve problems 3. Use multiplication facts to 	<p>Addison Wesley Pre-test and Chapter Tests 5, 6, and 7 Daily Mental Math Problems of the day MCAS test questions</p>	<p>Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		solve related problems, e.g. 4 x 60 is related to 4 x 600	and quizzes Formative assessment	<p>Vocabulary: Multiply, multiplication, factor, product, division, divide</p> <p>Literature: <u>The King's Chessboard</u> by David Birch (New York: Dial Books for Young Readers) 1988</p> <p><u>Knock! Knock!</u> by Jackie Carter (New York: Scholastic, Inc.) 1993</p> <p><u>The Doorbell Rang</u> by Pat Hutchins (New York: Greenwillow Books) 1986</p> <p>“The Lamplighter” from <u>A Child's Garden of Verses</u> by Robert Louis Stevenson (Old Tappan, New Jersey: Simon & Schuster) 1992</p>

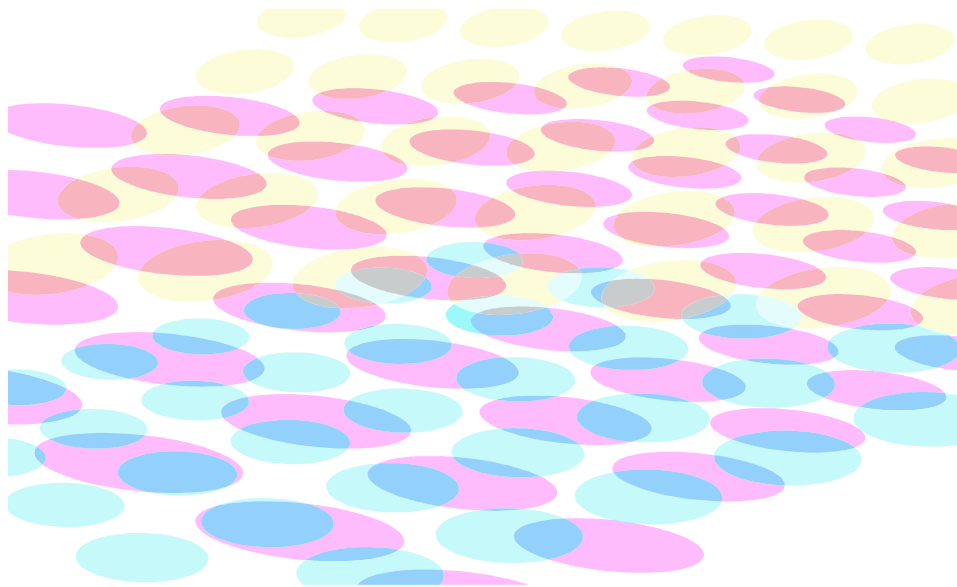


SUBJECT MATTER: Math - Patterns, Relations and Algebra

Grade: 3

Standard	Content	Skills	Assessment	Teacher Resources & Notes
3.P.1 Create, describe, extend, and explain symbolic (geometric) patterns and addition and subtraction patterns, e.g., 2, 6, 10, ...; and 50, 45, 40....	Numeration Addition Subtraction	Students will be able to: Create, describe, extend, and explain geometric, addition, and subtraction patterns	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Even number, odd number, pattern, skip counting
3.P.2 Determine which symbol (<, >, or =) is appropriate for a given number sentence, e.g., $7 \cdot 8 ? 49 + 6$.	Numeration Computation	Students will be able to: Compare whole numbers by using the appropriate symbol (<, >, or =) Determine which symbol (<, >, or =) is appropriate for a given number sentence	Addison Wesley Pre-test and Chapter Test Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Compare
3.P.3 Determine the value of a variable (through 10) in simple equations involving addition, subtraction, or multiplication, e.g., $2 + \text{X} = 9$; $5 \cdot \square = 35$.	Number Theory Computation	Students will be able to: Determine the value of a variable in addition, subtraction, or multiplication equations	Addison Wesley Pre-test and Chapter Test Daily Mental Math Problems of the day MCAS test questions and quizzes	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			Formative assessment	Vocabulary: Variable, equation, expression



SUBJECT MATTER: Math - Geometry**Grade: 3**

Standard	Content	Skills	Assessment	Teacher Resources & Notes
3.G.1 Compare and analyze attributes and other features (e.g., number of sides, corners, diagonals, and lines of symmetry) of two-dimensional geometric shapes.	Geometry	Student will be able to: 1. Identify two-dimensional geometric shapes 2. Compare two-dimensional geometric shapes through their attributes, e.g., number of sides, corners, lines of symmetry, diagonals, and perpendicular sides	Addison Wesley Pre-test and Chapter Test 9 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Line, line segment, parallel lines, intersecting lines, diagonal line, perpendicular lines, line of symmetry, symmetry, symmetrical, corner Literature: <u>Round Buildings, Square Buildings, and Buildings That Wiggle Like a Fish</u> by Philip M. Isaacson (New York: Alfred A. Knopf) 1990
3.G.2 Describe, model, draw, compare, and classify two-dimensional shapes, e.g., circles, triangles and quadrilaterals. Identify and describe simple three-dimensional shapes, e.g., cubes, spheres, and pyramids.	Geometry	Student will be able to: 1. Identify, describe, model, draw, classify, and compare two-dimensional shapes, e.g., circles, triangles, quadrilaterals, and various polygons 2. Identify and describe simple three-dimensional shapes, e.g., cubes, spheres, pyramids, and	Addison Wesley Pre-test and Chapter Test 9 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Cone, cube, cylinder, pyramid, rectangular prism, prism,

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		prisms		<p>solid figure, sphere, vertex, corner, edge, face, polygon, side, triangle, quadrilateral, pentagon, hexagon, octagon, square, rectangle, rhombus, trapezoid, parallelogram</p> <p>Literature: “Shapes” from <u><i>A Light in the Attic</i></u> by Shel Silverstein (New York: HarperCollins Children’s Books) 1981</p>
3.G.3 Identify angles as right angles, less than a right angle, and greater than a right angle.	Geometry	<p>Student will be able to:</p> <p>1. Identify an angle</p> <p>2. Identify an angle as right, acute, or obtuse</p>	<p>Addison Wesley Pre-test and Chapter Test 9</p> <p>Daily Mental Math</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p>Daily Mental Math</p> <p>Read It! Draw It! Solve It!</p> <p>Manipulatives</p> <p>Vocabulary: angle, acute angle, right angle, obtuse angle, perpendicular lines</p>
3.G.4 Identify and draw parallel lines, perpendicular lines, and other intersecting lines.	Geometry	<p>Student will be able to:</p> <p>Identify and draw lines, line segments, rays parallel lines, perpendicular lines, and intersecting lines</p>	<p>Addison Wesley Pre-test and Chapter Test 9</p> <p>Daily Mental Math</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p>Daily Mental Math</p> <p>Read It! Draw It! Solve It!</p> <p>Manipulatives</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			Formative assessment	Vocabulary: line, line segment, ray, point, parallel lines, intersecting lines, perpendicular lines, perpendicular
3.G.5 Using ordered pairs of whole numbers and/or letters, locate and identify points on a grid.	Geometry	Student will be able to:	Addison Wesley Pre-test and Chapter Test 9 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary:
3.G.6 Identify and draw lines of symmetry in two-dimensional shapes.	Geometry	Student will be able to: 1. Identify a line of symmetry 2. Draw lines of symmetry in two-dimensional shapes	Addison Wesley Pre-test and Chapter Test 9 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Symmetry, line(s) of symmetry, symmetric, symmetrical
3.G.7 Predict and explain the results of taking apart and combining two-dimensional shapes.	Geometry	Student will be able to: Predict and explain the results of combining and taking apart two-dimensional shapes	Addison Wesley Pre-test and Chapter Test 9 Daily Mental Math	Addison Wesley materials Investigations Daily Mental Math

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			Problems of the day MCAS test questions and quizzes Formative assessment	Read It! Draw It! Solve It! Manipulatives Vocabulary: Two-dimensional shape, polygon, circle, square, rectangle, quadrilateral, trapezoid, rhombus, parallelogram, pentagon, hexagon, octagon, tessellation, tessellate, congruent figures, flip, reflection, slide, translation, turn, rotation, motion Literature: <u>Flowers, Eyewitness Explorers Series</u> (New York: Dorling Kindersley Publishing, Inc.) 1997

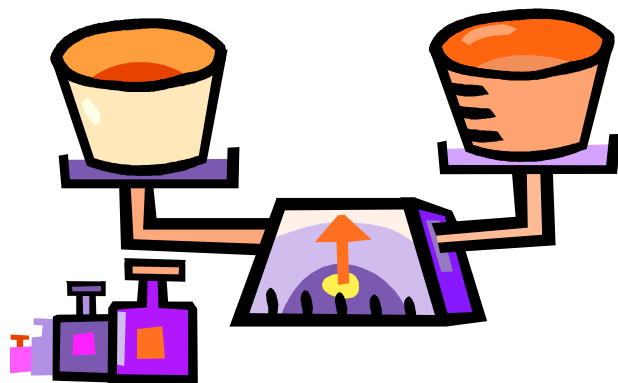


SUBJECT MATTER: Math - Measurement**Grade: 3**

Standard	Content	Skills	Assessment	Teacher Resources & Notes
3.M.1 Demonstrate an understanding of the attributes length, area, and weight, and select the appropriate type of unit for measuring each attribute using both the U.S. Customary (English) and metric systems.	Measurement	Student will be able to: <ol style="list-style-type: none">1. Find perimeter using both the Customary and metric systems2. Find area using both the Customary and metric systems3. Find volume using both the Customary and metric systems	Addison Wesley Pre-test and Chapter Tests 8 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Length, width, perimeter, area, square unit, volume, cubic unit Literature: <u>Measuring Penny</u> by Loreen Leedy (New York: Henry Holt and Company) 1997 <u>The Metric System</u> by Allan Fowler (Chicago: Childrens Press) 1995
3.M.2 Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc. <i>This standard is intentionally the same as standard 4.M.2.</i>	Measurement	Student will be able to: <ol style="list-style-type: none">1. Measure lengths in feet and inches, and change measures given in feet to inches2. Change measures between inches, feet, and yards3. Convert hours to minutes and minutes to hours	Addison Wesley Pre-test and Chapter Test 9, 11, and 12 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Inch, foot, yard, minute, hour, centimeter, meter,

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		4. Convert cents to dollars and dollars to cents 5. Make simple metric conversions		decimeter, cent, dollar Literature: <u>Melisande</u> by E. Nesbit (New York: Harcourt Brace Jovanovich) 1989
3.M.3 Identify time to the minute on analog and digital clocks using a.m. and p.m. Compute elapsed time, using a clock for times less than one hour (i.e., minutes since), and using a calendar (e.g., days since).	Measurement Time	Student will be able to: 1. Tell time to the minute on analog and digital clocks using a.m. and p.m. 2. Find elapsed time for times less than one hour, using a clock 3. Use a calendar to identify its elements and relationships	Addison Wesley Pre-test and Chapter Test 4 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: analog clock, digital clock, minute, hour, elapsed time, calendar, day, week, month
3.M.4 Estimate and find area and perimeter of a rectangle, using diagrams and grids, or by measuring.	Measurement Perimeter Area	Student will be able to: 1. Estimate and find the perimeter of a rectangle using diagrams and grids, or by measuring 2. Estimate and find the area of a rectangle using diagrams and grids, or by measuring	Addison Wesley Pre-test and Chapter Test 8 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Estimate, length, width, perimeter, area, square unit
3.M.5 Identify and use appropriate metric and U.S. Customary (English)	Measurement	Student will be able to:	Addison Wesley Pre-test and Chapter Test	Addison Wesley materials

Standard	Content	Skills	Assessment	Teacher Resources & Notes
units and tools (e.g., ruler, scale, thermometer, clock) to estimate, measure, and solve problems involving length, area, weight, temperature, and time.		Identify and use appropriate tools to solve estimation and measurement problems involving length, area, capacity (volume), weight, temperature, and time	9, 10 and 12 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	Investigations Daily Mental Math Read It! Draw It! Solve It! Manipulatives Vocabulary: Customary measurement system, metric system, ruler, centimeter ruler, meter stick, thermometer, degrees Fahrenheit, degrees Celsius, cup, pint, quart, gallon, milliliter, liter, pound, ounce, gram, kilogram, analog clock, digital clock



SUBJECT MATTER: Math - Data Analysis, Statistics and Probability**Grade: 3**

Standard	Content	Skills	Assessment	Teacher Resources & Notes
3.G.1 Compare and analyze attributes and other features (e.g., number of sides, corners, diagonals, and lines of symmetry) of two-dimensional geometric shapes.	Two-Dimensional Shapes	<ol style="list-style-type: none">1. The student will be able to classify solids and identify the faces, edges, and corners of solid figures.2. The student will be able to identify polygons.3. The student will be able to identify triangles based on the length of their sides as equilateral, isosceles, or scalene, and based on the size of their angles as right, acute, or obtuse.4. The student will be able to identify quadrilaterals that are squares, rectangles, parallelograms, rhombi, and trapezoids.	Addison Wesley Chapter 8 Pretest and Test <u>Daily Mental Math</u> Problems of the Day MCAS Test Questions and Quizzes Formative Assessments	<u>Daily Mental Math</u> World Teachers Press <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Investigations in Number, Data, and Space: Turtle Paths (2-D Geometry) Grade 3</u> <u>Investigations in Number, Data, and Space: Flips, Turns, and Area (2-D Geometry) Grade 3</u> <u>Investigations in Number, Data, and Space: Exploring Solids and Boxes (3-D Geometry) Grade 3</u> Vocabulary: Right angle, acute angle, obtuse angle, polygon, side, triangle, quadrilateral, pentagon, hexagon, octagon, equilateral triangle, isosceles triangle, scalene triangle, right triangle, acute triangle, obtuse triangle, rectangle, square, parallelogram, rhombus, trapezoid
3.G.2 Describe, model, draw, compare, and classify two-dimensional shapes, e.g., circles, triangles, and quadrilateral. Identify and describe simple three-dimensional shapes, e.g., cubes, spheres, and pyramids.	Three- Dimensional Shapes		Addison Wesley Chapter 8 Pretest and Test <u>Daily Mental Math</u> Problems of the Day MCAS Test Questions and	<u>Daily Mental Math</u> World Teachers Press <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications <u>Investigations in Number, Data, and Space: Turtle Paths (2-D Geometry)</u>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
			Quizzes Formative Assessments	<u>Grade 3 Investigations in Number, Data, and Space: Flips, Turns, and Area (2-D Geometry) Grade 3</u> Vocabulary: Solid figure, sphere, cube, rectangular prism, pyramid, cone, cylinder, face, edge, corner, vertex, vertices
3.G.3 Identify angles as right angles, less than a right angle, and greater than a right angle.	Angles	The student will be able to identify angles and classify an angle as a right angle, greater than a right angle, or smaller than a right angle.	Addison Wesley Chapter 8 Pretest and Test <u>Daily Mental Math</u> Problems of the Day MCAS Test Questions and Quizzes Formative Assessments	<u>Daily Mental Math</u> World Teachers Press <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications Vocabulary: Angle, vertex, right angle, acute angle, obtuse angle, perpendicular
3.G.4 Identify and draw parallel lines, perpendicular lines, and other intersecting lines.	Lines and Line Segments	The student will be able to identify points, lines, line segments, rays, parallel lines, and intersecting lines.	Addison Wesley Chapter 8 Pretest and Test <u>Daily Mental Math</u> Problems of the Day MCAS Test Questions and Quizzes Formative Assessments	<u>Daily Mental Math</u> World Teachers Press <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications Vocabulary: Point, line, line segment, ray, intersecting lines, parallel lines

Standard	Content	Skills	Assessment	Teacher Resources & Notes
3.G.5 Using ordered pairs of whole numbers and/or letters, locate and identify points on a grid	Ordered Pairs	The student will be able to locate and graph ordered pairs on a coordinate grid.	Addison Wesley Chapter 4 Pretest and Test <u>Daily Mental Math</u> Problems of the Day MCAS Test Questions and Quizzes Formative Assessments	<u>Daily Mental Math</u> World Teachers Press <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications Vocabulary: Coordinate grid, ordered pair, plot
3.G.6 Identify and draw lines of symmetry in two-dimensional shapes.	Symmetry	The student will be able to make and identify symmetrical figures, and draw a line of symmetry.	Addison Wesley Chapter 8 Pretest and Test <u>Daily Mental Math</u> Problems of the Day MCAS Test Questions and Quizzes Formative Assessments	<u>Daily Mental Math</u> World Teachers Press <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications Vocabulary: Symmetric, line of symmetry

Standard	Content	Skills	Assessment	Teacher Resources & Notes
3.G.7 Predict and explain the results of taking apart and combining two-dimensional shapes.		The student will be able to draw logical conclusions about geometric relationships.	Addison Wesley Chapter 8 Pretest and Test <u>Daily Mental Math</u> Problems of the Day MCAS Test Questions and Quizzes Formative Assessments	<u>Daily Mental Math</u> World Teachers Press <u>Read It! Draw It! Solve It!</u> Dale Seymour Publications



SUBJECT MATTER: Math - Number Sense and Operations

Grade: 4

Standard	Content	Skills	Assessment	Teacher Resources & Notes
Number Sense and Operations Skills			FOR ALL UNITS:	FOR ALL UNITS:
4.N.1 Exhibit an understanding of the base ten number system by reading, modeling, writing, and interpreting whole numbers to at least 100,000; demonstrating an understanding of the values of the digits; and comparing and ordering the numbers. :	Numeration Place Value	Students will be able to: 1. Count, read, write, rename numbers to at least 100,000 2. Understand place value relationships and patterns 3. Understand and use concrete/pictorial and number line models 4. Vocabulary: Expanded form, standard form, word form, digit, value, place value, period, place-value chart	Pre-test for each chapter (“Addison Wesley” or teacher-made) Scott Foresman-Addison Wesley <u>Mathematics</u> chapter tests Daily Mental Math weekly tests MCAS quizzes	Scott Foresman/ Addison Wesley <u>Mathematics</u> (“Addison Wesley”) Addison Wesley teacher resources: <ul style="list-style-type: none"> • Reteaching workbook • Problem-solving workbook • Enrichment workbook • Spiral review and test prep workbook • ESL workbook
4.N.2 Represent, order, and compare large numbers (to at least 100,000) using various forms, including expanded notation, e.g., $853 = 800 + 50 + 3$. :	Numeration Place Value Comparing and ordering numbers	Student will be able to: 1. Compare and order numbers 2. Write numbers in standard, word, and expanded form to the hundred thousands 3. Vocabulary: Expanded form, standard form, word form, digit, value, place value, period, place-value chart	MCAS test questions MCAS/Addison Wesley problems of the day Formative assessment in the form of teacher observation, questioning, class participation, checklists, daily class work, exit cards	<u>Investigations</u> – supplementary manipulative program <u>Daily Mental Math</u> – daily skill practice in a cumulative format MCAS and Addison Wesley problems of the day

Standard	Content	Skills	Assessment	Teacher Resources & Notes
4.N.3 Demonstrate an understanding of fractions as parts of unit wholes, as parts of a collection, and as locations on the number line	Number Theory Fractions	Student will be able to: <ol style="list-style-type: none"> 1. Identify concrete/pictorial models for part of a whole or part of a set 2. Identify fractional parts of a number line 3. Read and write fractions 4. Estimate fractional parts of a whole/set/number line unit 5. Put fractions in simplest form/lowest terms 6. Vocabulary: Fraction, unit fraction, equivalent fractions, numerator, denominator, benchmark fractions 		Addison Wesley MCAS practice quizzes (booklet) Department of Education materials: <ul style="list-style-type: none"> • MCAS practice questions • Released questions from prior MCAS tests <u>Mad Minute</u> – addition and multiplication timed practice booklet
4.N.4 Select, use, and explain models to relate common fractions and mixed numbers ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{10}$, $\frac{1}{12}$, and $1\frac{1}{2}$), find equivalent fractions, mixed numbers, and decimals, and order fractions. :	Number Theory Fractions Mixed Numbers Decimals	Students will be able to: <ol style="list-style-type: none"> 1. Identify and understand mixed numbers and improper fractions (fractions greater than 1) 2. Identify equivalent fractions 3. Relate fractions with equivalent decimals 4. Compare fractions using less than, greater than, and equal to 	Addison Wesley Pre-test and Chapter Tests 9 and 10 Daily Mental Math Problems of the day MCAS test questions and quizzes Formative assessment	On-going word walls and charts of math vocabulary Literature: <u>Gator Pie</u> by Louise Mathews (New York: Dodd, Mead) 1979 <u>Fractions</u> by David Stienecker (Tarrytown, NY: Benchmark Books) 1996

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		<p>5. Order fractions from least to greatest or greatest to least</p> <p>Vocabulary: Fraction, unit fraction, equivalent fractions, numerator, denominator, benchmark fractions, mixed number, improper fraction, simplest form, decimal, decimal point, tenths, hundredths</p>		
<p>4.N.5 Identify and generate equivalent forms of common decimals and fractions less than one whole (halves, quarters, fifths, and tenths). :</p>	<p>See 4. N. 3 and 4. N. 4</p>	<p>Vocabulary: Fraction, equivalent fraction, unit fraction, benchmark fraction, numerator, denominator</p>	<p>Addison Wesley Pre-test and Chapter Tests 9 and 11</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>
<p>4.N.6 Exhibit an understanding of the base ten number system by reading, naming, and writing decimals between 0 and 1 up to the hundredths. :</p>	<p>Number Theory</p> <p>Decimals</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate the meaning of decimals in the tenths and hundredths between 0 and 1 2. Write the decimal notation for money 3. Relate money and decimals, 	<p>Addison Wesley Pre-test and Chapter Test 11</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		i.e. dimes and tenths, cents and hundredths 4. Vocabulary: Decimal, decimal point, tenths, hundredths	and quizzes Formative assessment	
4.N.7 Recognize classes (in particular, odds, evens; factors or multiples of a given number; and squares) to which a number may belong, and identify the numbers in those classes. Use these in the solution of problems.	Numeration Number theory	Students will be able to: 1. Identify odd and even numbers 2. Skip count and find multiples of numbers 3. Use a hundred chart to find number patterns and related multiples 4. Identify the factors of a given number 5. Find the square of a number 6. Find the square root of a number 7. Vocabulary: Odd number, even number, factor, multiple, square number, squared	Addison Wesley Pre-test and Chapter Tests 3 and 4 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.N.8 Select, use, and explain various meanings and models of multiplication and division of whole numbers. Understand and use the inverse relationship between the two operations.	Multiplication Division Number Theory	Students will be able to: 1. Demonstrate understanding of multiplication as repeated addition 2. Show multiplication as groups	Addison Wesley Pre-test and Chapter Test 3 Daily Mental Math quizzes	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		<p>or sets of objects using models or paper and pencil</p> <ol style="list-style-type: none"> 3. Construct an array to show a multiplication fact 4. Know the terms factor and product 5. Write a multiplication/division fact family 6. Demonstrate an understanding of division as repeated subtraction 7. Use basic known multiplication facts to find unknown facts, e.g. explain how $8 \times 10 = 80$ can be used to find 8×12 <p>Vocabulary: Multiply, divide, factor, product, dividend, divisor, quotient</p>	<p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Literature: <u>The 329th Friend</u> by Marjorie Weinman Sharmat (New York: Macmillan) 1992</p>
<p>4.N.9 Select, use, and explain the commutative, associative, and identity properties of operations on whole numbers in problem situations, e.g., $37 \square 46 = 46 \square 37$, $(5 \square 7) \square 2 = 5 \square (7 \square 2)$. 1</p>	<p>Number Theory</p> <p>Addition</p> <p>Multiplication</p>	<p>The students will be able to:</p> <ol style="list-style-type: none"> 1. Know the commutative property of addition and multiplication, i.e., $7 \times 8 = 8 \times 7$ 2. Know the associative property of addition and multiplication, i.e., 	<p>Addison Wesley Pre-test and Chapter Tests 2 and 3</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		3. $(8 \times 6) \times 4 = 8 \times (6 \times 4)$ 4. Know the identity property of multiplication, i.e., $n \times 1 = n$ Vocabulary: Commutative Properties of Addition and Multiplication, Associative Properties of Addition and Multiplication, Identity Property of Multiplication	Formative assessment	
4.N.10 Select and use appropriate operations (addition, subtraction, multiplication, division) to solve problems, including those involving money.	Addition Subtraction Multiplication Division Problem solving Money	Students will be able to: 1. Use key words to determine the operation to use to solve a problem, e.g. total, how much more than, difference) 2. Choose the appropriate computation method, i.e., mental math, paper and pencil, calculator) 3. Use the appropriate strategy to solve a problem: <ul style="list-style-type: none"> • Act it out • Use objects • Draw a picture • Use logical reasoning • Try, check, and revise • Look for a pattern • Make an organized list • Make a table or a graph • Work backward 	Addison Wesley Pre-test and Chapter Tests 2 and 3 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives Literature: <u>The Ultimate Book of Cross-Sections</u> (New York: Dorling Kindersley) 1996 <u>A Job for Jenny Archer</u> by Ellen Conford (Boston: Little, Brown & Co.) 1988 <u>The Story of Money</u> by Betsy Maestro (New York: Clarion Books) 1993

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		Vocabulary: Number sentence, equation, sum, difference, product, quotient		
4.N.11 Know multiplication facts through 12 \square 12 and related division facts. Use these facts to solve related multiplication problems and compute related problems, e.g., $3 \square 5$ is related to $30 \square 50$, $300 \square 5$, and $30 \square 500$	Multiplication Division Problem solving	Students will be able to: 1. Know multiplication facts through 12's 2. Know division facts through 12's 3. Be able to solve problems in the tens, hundreds, and thousands related to basic multiplication and division facts	Addison Wesley Pre-test and Chapter Tests 2, 3, 5, 6, and 7 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.N.12 *Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently.	Number Theory Addition Subtraction Multiplication	Students will be able to: 1. Use an algorithm to add and subtract up to five-digit numbers with and without regrouping 2. Use an algorithm to multiply up to 3-digit by 2-digit numbers 3. Convert number sentences (horizontally written problems) to algorithms in order to solve	Addison Wesley Pre-test and Chapter Tests 2, 5, and 6 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.N.13 Divide up to a three-digit whole number with a single-digit divisor (with or without remainders) accurately and efficiently. Interpret	Number Theory Division	Students will be able: 1. Divide up to a 3-digit whole number by a 1-digit divisor	Addison Wesley Pre-test and Chapter Tests 7	Addison Wesley materials Investigations

Standard	Content	Skills	Assessment	Teacher Resources & Notes
any remainder.	Addition Subtraction	<ol style="list-style-type: none"> 2. Know the terms dividend, divisor, and remainder 3. Interpret a remainder 4. Vocabulary: Dividend, divisor, quotient, remainder, divisible 	<p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p><u>Daily Mental Math</u></p> <p>Manipulatives</p> <p>Literature: <u>Factastic Book of 1001 Lists</u> by Russell Ash (New York: Dorling Kindersley Publishing, Inc.) 1999</p> <p><u>Antonio's Rain Forest</u> by Anna Lewington (Hove, UK: Wayland Publishers, Ltd.) 1992</p> <p><u>1,000 Miles in 12 Days: Pro Cyclists on Tour</u> by David Hautzig (New York: Orchard Books) 1995</p>
4.N.14 Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition and subtraction (up to five-digit numbers), and multiplication (up to three digits by two digits).	Number Theory Addition Subtraction Division	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Use algorithms to solve addition, subtraction, and multiplication problems 2. Rewrite number sentences as algorithms to solve problems 3. Vocabulary: Algorithm 	<p>Addison Wesley Pre-test and Chapter Tests 2, 3, 5, 6, and 7</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>
4.N.15 Demonstrate in the classroom an understanding of and the ability to use the conventional algorithm for division of up to a three-digit whole number with a single digit divisor (with or without remainders).	Number Theory Division	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Use the conventional algorithm to solve division problems 	<p>Addison Wesley Pre-test and Chapter Test 7</p> <p>Daily Mental Math quizzes</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		2. Rewrite a division number sentence in the form of the conventional algorithm to solve problems 3. Vocabulary: Dividend, divisor, quotient, remainder, algorithm, divisible	Problems of the day MCAS test questions and quizzes Formative assessment	Manipulatives
4.N.16 Round whole numbers through 100,000 to the nearest 10, 100, 1000, 10,000, and 100,000.	Numeration	Students will be able to: 1. Round whole numbers through 100,000 to the nearest 10; 100; 1,000; 10,000; and 100,000 2. Round money to the nearest dollar 3. Vocabulary: Rounding, digit, value, place value, period	Addison Wesley Pre-test and Chapter Test 2 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.N.17 Select and use a variety of strategies (e.g., front-end, rounding, and regrouping) to estimate quantities, measures, and the results of whole-number computations up to three-digit whole numbers and amounts of money to \$1000, and to judge the reasonableness of the answer.	Number Theory Estimation Logic	Students will be able to: 1. Understand and use front-end estimation 2. Understand and use rounding to estimate 3. Understand and use regrouping to estimate 4. Estimate quantities, measures, and the answers to computations (up to 3-digit	Addison Wesley Pre-test and Chapter Tests 2 and 5 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		numbers and money to \$1,000) to judge their reasonableness 5. Vocabulary: Estimate, rounding, front-end estimation, regrouping, overestimate, underestimate		
4.N.18 Use concrete objects and visual models to add and subtract common fractions.	Number theory Fractions	Students will be able to: 1. Use concrete objects and visual models to add and subtract common fractions with like denominators 2. Vocabulary: Fraction, factor, numerator, denominator	Addison Wesley Pre-test and Chapter Test 10 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives Literature: <u>Fraction Action</u> by Loreen Leedy (New York: Holiday House) 1994

$$\frac{1}{2}$$

$$\frac{1}{4}$$

$$\frac{3}{4}$$

SUBJECT MATTER: Math – Patterns, Relationships, and Algebra**Grade 4**

Standard	Content	Skills	Assessment	Teacher Resources & Notes
4.P.1 Create, describe, extend, and explain symbolic (geometric) and numeric patterns, including multiplication patterns like 3, 30, 300, 3000, . . .	Number Theory Number Patterns	Students will be able to: <ol style="list-style-type: none">1. Create, describe, extend, and explain a geometric pattern2. Give missing figures in a geometric pattern3. Create, describe, extend, and explain a numeric pattern, including multiplication patterns4. Give missing numbers in a numeric or multiplication pattern5. Vocabulary: Pattern, sequence, skip counting, multiple, even numbers, odd numbers, multiplication table	Addison Wesley Pre-test and Chapter Tests 3 and 5 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.P.2 Use symbol and letter variables (e.g., s, x) to represent unknowns or quantities that vary in expressions and in equations or inequalities (mathematical sentences that use =, <, >).	Algebra	Students will be able to: <ol style="list-style-type: none">1. Know the difference between an expression and an equation2. Write number expressions for phrases3. Write simple algebraic equations	Addison Wesley Pre-test and Chapter Tests 2 and 3 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		4. Use letter and symbol variables to represent unknowns in expressions 5. $(n + 7)$ and equations $(n + 8 = 12)$ 6. Use letter and symbol variables in inequalities $(n + 9 > 17)$ 7. Use inequality symbols effectively 8. $(<, >)$ to compare numbers Vocabulary: Number expression, equation, algebra, variable, symbol, parentheses, solution	Formative assessment	
4.P.3 Determine values of variables in simple equations, e.g., $4106 - n = 37$; $5 = m + 3$ and $n - m = 3$.	Number Theory Algebra	Students will be able to: 1. Determine values of variables in simple equations by substituting values for the variable $(n + 6 = 10; n = 4)$ 2. Evaluate variable expressions and equations that involve a single operation of addition, subtraction, multiplication, or division Vocabulary: Value	Addison Wesley Pre-test and Chapter Tests 2 and 3 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.P.4 Use pictures, models, tables, charts, graphs, words, number sentences, and mathematical notations to interpret mathematical	Number Theory Numeration	Students will be able to: 1. Model problem situations with objects using the Draw a Picture and Act It Out	Addison Wesley Pre-test and Chapter Tests 2 and 3 Daily Mental Math	Addison Wesley materials Investigations

Standard	Content	Skills	Assessment	Teacher Resources & Notes
relationships.	Mathematical Relationships	strategies 2. Use mathematical symbols and algebraic variables to show relationships 3. Relate addition and subtraction 4. Relate multiplication and division	quizzes Problems of the day MCAS test questions and quizzes Formative assessment	<u>Daily Mental Math</u> Manipulatives
4.P.5 Solve problems involving proportional relationships, including unit pricing (e.g., four apples cost 80¢, so one apple costs 20¢) and map interpretation (e.g., one inch represents five miles, so two inches represent ten miles).	Numeration Mathematical Relationships Proportion	Students will be able to: 1. Use the Make a Table strategy to show proportional relationships 2. Use addition, subtraction, multiplication, and division to solve proportion problems	Addison Wesley Pre-test and Chapter Test Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.P.6 Determine how change in one variable relates to a change in a second variable, e.g., input-output tables.	Number Theory Algebra Mathematical Relationships Proportion	Students will be able to: 1. Find the rule for a pattern presented in a table, and use the rule to add inputs and outputs to the table 2. Vocabulary: Input, output, variable, input-output table	Addison Wesley Pre-test and Chapter Test 3 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives

SUBJECT MATTER: Math – Geometry**Grade 4**

Standard	Content	Skills	Assessment	Teacher Resources & Notes
4.G.1 Compare and analyze attributes and other features (e.g., number of sides, faces, corners, right angles, diagonals, and symmetry) of two- and three-dimensional geometric shapes. :	Geometry	Students will be able to: <ol style="list-style-type: none">1. Demonstrate knowledge of geometric terms, e.g. sides, faces, vertices, types of angles, symmetry of two- and three-dimensional shapes2. Compare and analyze attributes and other features of geometric shapes3. Vocabulary: Plane figure, solid figure, side, face, vertex, vertices, angle, corner, angle, diagonal, symmetry	Addison Wesley Pre-test and Chapter Test 8 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives Literature: <u>TREE, Eyewitness Books</u> by David Burnie (New York: Dorling Kindersley Publishing, Inc.) 2000 <u>The Pueblo</u> by Charlotte and David Yue (Boston: Houghton Mifflin Company) 1990
4.G.2 Describe, model, draw, compare, and classify two- and three-dimensional shapes, e.g., circles, polygons—especially triangles and quadrilaterals—cubes, spheres, and pyramids.	Geometry	Students will be able to: <ol style="list-style-type: none">1. Identify plane and solid figures2. Identify, describe, model, draw, compare, and classify two-dimensional shapes – circles and polygons3. Identify, describe, model, draw, compare, and classify three-dimensional shapes – cubes, other prisms, spheres, and pyramids4. Vocabulary: Plane figure,	Addison Wesley Pre-test and Chapter Test 8 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives Literature: <u>The Greedy Triangle</u> by Marilyn Burns (New York: Scholastic, Inc.) 1994

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		solid figure, circle, polygons (e.g. square, rectangle, pentagon, hexagon, heptagon, octagon, decagon, quadrilateral, parallelogram, rhombus, trapezoid), cube, prism, pyramid, sphere, cylinder, cone		
4.G.3 Recognize similar figures.	Geometry	Students will be able to: <ol style="list-style-type: none"> 1. Identify and construct similar figures 2. Vocabulary: Similar figures, congruent figures 	Addison Wesley Pre-test and Chapter Test 8 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.G.4 Identify angles as acute, right, or obtuse.	Geometry	Students will be able to: <ol style="list-style-type: none"> 1. Identify geometric terms relating to angles, e.g. angle, vertex, acute angle, right angle, obtuse angle 2. Identify attributes of acute, right, and obtuse angles 3. Vocabulary: Angle, right angle, acute angle, obtuse angle, vertex, 	Addison Wesley Pre-test and Chapter Test 8 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives

Standard	Content	Skills	Assessment	Teacher Resources & Notes
4.G.5 Describe and draw intersecting, parallel, and perpendicular lines.	Geometry	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Identify geometric terms relating to lines and parts of a line, e.g. point, line, line segment, ray 2. Identify and draw parallel, intersecting, and perpendicular lines <p>Vocabulary: Parallel lines, perpendicular lines, intersecting lines</p>	<p>Addison Wesley Pre-test and Chapter Test 8</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>
4.G.6 Using ordered pairs of numbers and/or letters, graph, locate, identify points, and describe paths (first quadrant).	Geometry	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Locate and graph ordered pairs of numbers or letters on a coordinate grid 2. Identify points on a coordinate grid 3. Identify and describe paths in the first quadrant of a grid 4. Vocabulary: Point, coordinate grid, vertical axis, horizontal axis, parentheses 	<p>Addison Wesley Pre-test and Chapter Test 4</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>
4.G.7 Describe and apply techniques such as reflections (flips), rotations (turns), and translations (slides) for determining if two shapes are congruent.	Geometry	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Identify congruent figures 2. Determine the slide (translation), flip (reflection), 	<p>Addison Wesley Pre-test and Chapter Test 8</p> <p>Daily Mental Math quizzes</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		<p>or turn (rotation) image of a figure</p> <p>3. Vocabulary: Flip, reflection, turn, rotation, slide, translation, transformation, congruent</p>	<p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Manipulatives</p>
<p>4.G.8 Identify and describe line symmetry in two-dimensional shapes.</p>	<p>Geometry</p>	<p>Students will be able to:</p> <p>1. Identify and draw the line or lines of symmetry of a two-dimensional shape</p> <p>2. Draw symmetrical shapes</p> <p>3. Vocabulary: Symmetry, symmetrical, line(s) of symmetry</p>	<p>Addison Wesley Pre-test and Chapter Test 8</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>
<p>4.G.9 Predict and validate the results of partitioning, folding, and combining two- and three-dimensional shapes.</p>	<p>Geometry</p>	<p>Students will be able to:</p> <p>Use models or nets of two- and three-dimensional shapes to predict and validate (check) the results of partitioning, folding, and combining the shapes</p>	<p>Addison Wesley Pre-test and Chapter Test 8</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>

SUBJECT MATTER: Measurement***Grade: 4***

Standard	Content	Skills	Assessment	Teacher Resources & Notes
4.M.1 Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.	Length, Weight/Mass, Capacity and Temperature Customary and Metric Measurement Systems	Students will be able to: 1. Identify and demonstrate an understanding of the customary and metric systems to measure length, weight, capacity, and temperature 2. Determine the appropriate units of measurement and measurement instruments to use in problem-solving Vocabulary: Customary measures, metric measures, inch, foot, yard, mile, millimeter, centimeter, meter, kilometer, perimeter, area, square unit, capacity, volume, teaspoon, tablespoon, ounce, pound, cup, pint quart, gallon, liter, milliliter, ton, metric ton, gram kilogram	4.M.1 Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.	Length, Weight/Mass, Capacity and Temperature Customary and Metric Measurement Systems
4.M.2 Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc. :	Length, Weight, Capacity, Temperature, and Time Customary and Metric Measurement Systems	Students will be able to: Determine and use simple conversions within either the customary or metric measurement systems	4.M.2 Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc.	Length, Weight, Capacity, Temperature, and Time Customary and Metric Measurement Systems
4.M.3 Identify time to the minute on analog and digital clocks using a.m.	Time	Students will be able to:	4.M.3 Identify time to the minute on	Time

Standard	Content	Skills	Assessment	Teacher Resources & Notes
<p>and p.m. Compute elapsed time using a clock (e.g., hours and minutes since...) and using a calendar (e.g., days since...).</p>	<p>Calendar</p>	<ol style="list-style-type: none"> 1. Know the difference between an analog and a digital clock 2. Tell time to the nearest one minute and five minutes using analog and digital clocks 3. Identify times as either A.M. or P.M. 4. Determine the elapsed time in hours and/or minutes between two given times 5. Use a calendar to determine temporal passage, e.g. days since a given date, weeks after or before a given date <p>Vocabulary: Analog clock, digital clock, elapsed time, calendar, minute, hour</p>	<p>analog and digital clocks using a.m. and p.m. Compute elapsed time using a clock (e.g., hours and minutes since...) and using a calendar (e.g., days since...).</p>	<p>Calendar</p>
<p>4.M.4 Estimate and find area and perimeter of a rectangle, triangle, or irregular shape using diagrams, models, and grids or by measuring.</p>	<p>Geometry Spatial Relationships Customary and Metric Measurement Systems</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Estimate the perimeter of a geometric shape 2. Find the perimeter of a polygon by adding the lengths of the sides or by using a formula ($P = s + s + s \dots$) 3. Estimate the area of a polygon 4. Find the area of a rectangle and irregular rectangular shapes by counting square 	<p>4.M.4 Estimate and find area and perimeter of a rectangle, triangle, or irregular shape using diagrams, models, and grids or by measuring.</p>	<p>Geometry Spatial Relationships Customary and Metric Measurement Systems</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		units or by using a formula ($A = l \times w$) 5. Use diagrams, models, and grids to find perimeter and area 6. Vocabulary: Perimeter, area, formula, square unit, grid		
4.M.5 Identify and use appropriate metric and English units and tools (e.g., ruler, angle ruler, graduated cylinder, thermometer) to estimate, measure, and solve problems involving length, area, volume, weight, time, angle size, and temperature.	Geometry Customary and Metric Measurement Systems	Students will be able to: 1. Find the volume of rectangular prisms by counting cubic units or by using a formula ($V = l \times w \times h$) 2. Estimate and measure length to the nearest inch, and choose the most appropriate customary unit of length for a given object or distance 3. Measure and draw lengths to the nearest half inch 4. Choose the most appropriate customary unit of capacity for a give container and measure capacity 5. Measure temperature in both degrees Fahrenheit and degrees Celsius 6. Use an angle ruler and protractor to measure angles	4.M.5 Identify and use appropriate metric and English units and tools (e.g., ruler, angle ruler, graduated cylinder, thermometer) to estimate, measure, and solve problems involving length, area, volume, weight, time, angle size, and temperature.	Geometry Customary and Metric Measurement Systems

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		Vocabulary: Ruler, angle ruler, protractor, thermometer, graduated cylinder		
4.M.1 Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.	Length, Weight/Mass, Capacity and Temperature Customary and Metric Measurement Systems	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Identify and demonstrate an understanding of the customary and metric systems to measure length, weight, capacity, and temperature 2. Determine the appropriate units of measurement and measurement instruments to use in problem-solving <p>Vocabulary: Customary measures, metric measures, inch, foot, yard, mile, millimeter, centimeter, meter, kilometer, perimeter, area, square unit, capacity, volume, teaspoon, tablespoon, ounce, pound, cup, pint quart, gallon, liter, milliliter, ton, metric ton, gram kilogram</p>	4.M.1 Demonstrate an understanding of such attributes as length, area, weight, and volume, and select the appropriate type of unit for measuring each attribute.	Length, Weight/Mass, Capacity and Temperature Customary and Metric Measurement Systems
4.M.2 Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc. :	Length, Weight, Capacity, Temperature, and Time Customary and Metric Measurement Systems	<p>Students will be able to:</p> <p>Determine and use simple conversions within either the customary or metric measurement systems</p>	4.M.2 Carry out simple unit conversions within a system of measurement, e.g., hours to minutes, cents to dollars, yards to feet or inches, etc.	Length, Weight, Capacity, Temperature, and Time Customary and Metric Measurement Systems

SUBJECT MATTER: Math – Data Analysis, Statistics, and Probability Grade: 4

Standard	Content	Skills	Assessment	Teacher Resources & Notes
4.D.1 Collect and organize data using observations, measurements, surveys, or experiments, and identify appropriate ways to display the data.	Data Collection Graphing	Students will be able to: 1. Collect and organize data using surveys, experiments, observations, or measurement 2. Choose an appropriate graph to display collected data 3. Vocabulary: Survey, data, tally chart	Addison Wesley Pre-test and Chapter Test 4 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.D.2 Match representations of a data set such as lists, tables, or graphs (including circle graphs) with the actual set of data.	Data Collection Graphing	Students will be able to: Identify and match data-collection representations, e.g. lists, tables, charts, graphs, with the actual data Vocabulary: List, table, chart	Addison Wesley Pre-test and Chapter Test 4 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives
4.D.3 Construct, draw conclusions, and make predictions from various representations of data sets, including tables, bar graphs, pictographs, line graphs, line plots, and tallies.	Graphing	Students will be able to: 1. Read, interpret, and construct pictographs, line plots, bar graphs, and line graphs 2. Read, interpret, and construct	Addison Wesley Pre-test and Chapter Test 4 Daily Mental Math quizzes	Addison Wesley materials Investigations <u>Daily Mental Math</u>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		<p>representations of data such as tallies, lists, tables, and charts that can be used to collect and organize data</p> <p>Vocabulary: Graph, bar graph, pictograph, line graph, line plot, point, vertical axis, horizontal axis, survey, data, tally chart, circle or pie graph</p>	<p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Manipulatives</p>
<p>4.D.4 Represent the possible outcomes for a simple probability situation, e.g., the probability of drawing a red marble from a bag containing three red marbles and four green marbles.</p>	<p>Probability</p>	<p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Use fractional language to represent possible outcomes, e.g. “The probability of a square being pulled out of the bag of shapes is two out of four.” 2. Use a fraction to express the probability of an event, e.g. “The probability of a square being pulled out of the bag of shapes is $\frac{2}{4}$ or $\frac{1}{2}$.” <p>Vocabulary: Probability, likely, unlikely, impossible, certain, equally likely</p>	<p>Addison Wesley Pre-test and Chapter Test 12</p> <p>Daily Mental Math quizzes</p> <p>Problems of the day</p> <p>MCAS test questions and quizzes</p> <p>Formative assessment</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p> <p>Literature: <u>Jumanji</u> by Chris Van Allsburg (Boston: Houghton Mifflin) 1981</p>
<p>4.D.5 List and count the number of possible combinations of objects from three sets, e.g., how many different outfits can one make from a set of three shirts, a set of two skirts, and a set of two hats?</p>	<p>Probability</p>	<p>Students will be able to:</p> <p>Use the Make an Organized List strategy to determine the possible combinations of objects that can be made from two or three sets List all possible results for a</p>	<p>Addison Wesley Pre-test and Chapter Test 12</p> <p>Daily Mental Math quizzes</p>	<p>Addison Wesley materials</p> <p>Investigations</p> <p><u>Daily Mental Math</u></p> <p>Manipulatives</p>

Standard	Content	Skills	Assessment	Teacher Resources & Notes
		situation Vocabulary: Organized list, combinations	Problems of the day MCAS test questions and quizzes Formative assessment	
4.D.6 Classify outcomes as certain, likely, unlikely, or impossible by designing and conducting experiments using concrete objects such as counters, number cubes, spinners, or coins.	Probability	Students will be able to: 1. Describe a probability as likely, unlikely, impossible, or certain 2. Design an experiment using concrete objects to describe a given probability	Addison Wesley Pre-test and Chapter Test 12 Daily Mental Math quizzes Problems of the day MCAS test questions and quizzes Formative assessment	Addison Wesley materials Investigations <u>Daily Mental Math</u> Manipulatives Literature: <u>Probably Pistachio</u> by Stuart J. Murphy (New York: HarperCollins Publishers) 2001

