

**Portales Municipal Schools  
UNIT MAP**

<b>Year:</b> 2009-2010	<b>Grade:</b> 2	<b>Subject:</b> Mathematics <b>Unit:</b> Numbers to 250	<b>Quarter:</b> One	<b>Suggested Time:</b> 4 weeks
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<b>Strand:</b> I Numbers and Operations	<b>Standard:</b> Students will understand numerical concepts and mathematical operations.
<b>Essential Questions:</b> How can numbers up to 250 be represented? How can a number be identified as odd or even? What strategies can be used to compare and order numbers?	

**Benchmark: K-4 A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems**

<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
<p>1. Understand the relationship between numbers, quantities, and place value in whole numbers up to 250 and develop flexible ways of thinking about numbers:</p> <ul style="list-style-type: none"> <li>• use multiple models to explore place value and the base-ten number system</li> </ul> <p><b>Mastery</b></p> <ul style="list-style-type: none"> <li>• represent whole numbers and use them in flexible ways including decomposing and recombining numbers and see their relationships (e.g., 3 is one less than 4, one more than 2, two less than 5)</li> </ul> <p><b>Mastery</b></p> <ul style="list-style-type: none"> <li>• identify whether a set of objects has an odd or even number of elements</li> </ul> <p><b>Mastery</b></p> <ul style="list-style-type: none"> <li>• compare and order numbers using a variety of terms (e.g., tens, less than, odd numbers)</li> </ul> <p><b>Mastery</b></p>	<p><b>Student Journal:</b> Students will add new key words with definitions and illustrations, predictions, reflections and problem solving activities throughout the year. <b>(Com)</b></p> <p>After listening to <u>How Many Spots Does a Leopard Have?</u> by Julius Lester, students will devise ways to ensure accuracy in counting. <b>(RP; Con)</b></p> <p><b>Use base-ten blocks to create numbers up to 250:</b> Students will take turns writing 1-, 2-, or 3-digit numbers and their partner will use base-ten blocks to create the number. Students will write the numbers and base-ten representations on an index card. After creating 10 cards, students will classify the numbers as odd or even by sorting them into an odd or even pile, chart or list. Students will then evaluate cards and arrange the cards in order from</p>	<p>Student writing</p> <p>Student response</p> <p>Teacher observations and index cards with pictures of base-ten blocks, written numbers, classifications of odd and even numbers and cards in order from smallest to largest</p>	<p>Journals</p> <p><b>*Harcourt Ch. 1</b> (Numbers to 100)</p> <p><u>How Many Spots Does a Leopard Have?</u> By Julius Lester</p> <p>Base ten blocks Paper/pencil <a href="http://www.oswego.org/ocsd-web/games/DogBone/gamebone.html">http://www.oswego.org/ocsd-web/games/DogBone/gamebone.html</a> (hundreds chart)</p> <p><b>*Harcourt Chapter 2 Lesson 3</b> (Even and Odd) <b>(*Harcourt Ch. 3</b> (Comparing and Ordering Numbers) <a href="http://www.internet4classrooms.com/skills_2nd_math.html">http://www.internet4classrooms.com/skills_2nd_math.html</a> (2.1.1d #s1-10, 2.1.1e #s 1-6) (skip counting, finding missing numbers, expanded form, place value, odd and even, ordinal numbers, match number to word, missing numbers)</p>	<p><u>How Many Spots Does a Leopard Have?</u> by Julius Lester</p> <p><u>One Hundred Hungry Ants</u> by Elinor J. Pinczes</p>

**R=Review**  
**I=Introduce**  
**M=Mastery**

**PS=Problem Solving**  
**RP=Reasoning and Proof**  
**Com=Communication**  
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4. Identify patterns and explain the relationships of the units in the pattern (e.g., the number of ears on one dog, two dogs, etc., or linear numerical patterns). <i>Introduce</i>		<b>Possible Extension:</b> Partners will choose another pattern rule for skip counting and circle the numbers on their hundreds chart using a Dry-Erase marker. Partners will exchange charts and deduce the skip counting rule. (PS)	their partner's hundreds chart. <b>*Patterns: Teacher Determined Unit Assessment</b>	Sequences) <b>*Harcourt Ch. 2</b> (Number Patterns)	
Year: 2009-2010	Grade: 2	Subject: Mathematics Unit: Understanding Time		Quarter: One	Suggested Time: 1-2 weeks

Strand IV: Measurement	Standard: Students will understand measurement systems and applications.
Essential Questions: What information can be gathered from a calendar? How can specific dates be identified on a calendar? What are some ways to compare measurements of time?	

Benchmark: K-4 IV A: Understand measurable attributes of objects and the units, systems, and process of measurement.				
Performance Standard	Activities/Strategies	Assessments	Resources/Materials	Suggested Reading
5. Identify and use time intervals (e.g., hours, days, weeks, months). <i>Review</i>	<p><b>The Purpose of Dates:</b> Each group will think of at least one activity for which a calendar might be important and draw a picture to illustrate it. Students will share out their drawings and activity with the group. (Rep; Com)</p> <p><b>Order the Months of the Year:</b> Pairs of students will take turns placing index cards with the months of the year in order. Students will be challenged to order the cards in 1 minute or less. After both members have completed the task, each will write the months in order in their journals. (RP)</p> <p><b>Real-Object Birthday Graph:</b> Students predict which month will have the most birthdays and the least. Students will act out a concrete graph of their data and</p>	<p>Completed drawing and presentation.</p> <p>Journal entry</p> <p>Student graphs, teacher observation</p>	<p>Paper, crayons, calendars</p> <p>1 minute timer Index cards with the months of the year</p> <p><u>Think Math! Data and Probability</u> TE pp. 20-21</p> <p><b>*Harcourt Ch. 15</b></p>	<p>Poems: <i>Months of the Year</i> TE AN 3 <i>Birthdays</i> By Mary Ann Hoberman, TE AN 4</p> <p><u>Benjamin's 365 Birthdays</u> by Judi Barrett, Aladdin</p> <p>Harcourt <i>Math Jingles CD</i> Track 13</p>

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		generate questions about their graph. Students then create a picture graph of their birthdays and note the advantages of displaying information in various ways. (Com; PS; Rep)	*Understanding Time: Teacher Determined Unit Assessment	(Understanding Time)	
Year: 2009-2010	Grade: 2	Subject: Mathematics Unit: Tables and Graphs		Quarter: One	Suggested Time: 2 weeks

Strand IV: Data Analysis and Probability	Standard: Students will understand how to formulate questions, analyze data, and determine probabilities.
Essential Questions: How can tables and graphs be used to display data? How can data from tables and graphs be interpreted? What types of questions can be addressed with data?	

**Benchmark:K-4 VA: Formulate questions that can be addresses with data and collect, organize, and display relevant data to answer them.  
VB: Select and use appropriate statistical methods to analyze data.**

<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
<p>A.1. Collect numerical data systematically. <i>Intro/Mastery</i></p> <p>2. Represent data by using concrete objects, pictures, tables, numbers, tallies, and graphs (e.g., pictographs). <i>Introduce</i></p> <p>3. Pose questions about students' selves and their surroundings and gather data by interviewing, surveying, and making observations to answer the questions posed. <i>Introduce</i></p> <p>B. 1. Describe and interpret data by drawing conclusions and making conjectures based on the data collected. <i>Introduce</i></p> <p>2 Display data in a variety of formats. <i>Introduce.</i></p>	<p><b>Concrete Graph:</b> Students will place empty juice and milk cartons on a graph to display what they drank for breakfast. They will determine if their group drank more milk or juice. After evaluating the graph and determining the results, each group will work together to construct a different type of graph to display their data. (Com; PS; Rep)</p> <p><b>Ice Cream Pictograph:</b> Students will survey members in their group of 8-10 to discover the group's favorite flavor of ice cream. Students will create a key using a cone as a symbol. Using crayons and chart paper, each group will construct a pictograph to display their results. As a class, students</p>	<p>Student presentation of results.</p> <p>Pictographs</p>	<p>*Harcourt Ch. 4 (Tables and Graphs)</p> <p>Chart paper Textbook TE p. 55B Empty milk and juice cartons from breakfast</p> <p>Chart paper Crayons</p> <p>CD-ROM: <u>Harcourt Mega</u></p>	<p>Literature relating to graphing: <u>How Many Snails? A Counting Book</u> by Paul Giganti, Jr.</p> <p><u>The Great Graph Contest</u> by Loreen Leedy</p>

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		will decide upon a way to combine their results and discover the favorite color of the class. <b>(Com; PS; Rep)</b> <b>Assessments:</b> Pictographs	<b>*Tables and Graphs: Teacher Determined Unit Assessment</b>	<u>Math:</u> <i>Country Countdown, White Water Graphing</i> , Levels D and E	
<b>Year:</b> 2009-2010	<b>Grade:</b> 2	<b>Subject:</b> Mathematics <b>Unit:</b> Addition and Subtraction Strategies		<b>Quarter:</b> Two	<b>Suggested Time:</b> 3-4 weeks

Strand I. Numbers and Operations Strand II. Algebra	Standard I: Students will understand numerical concepts and mathematical operations. Standard II: Students will understand algebraic concepts and applications.
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**Essential Questions:** How can counting forwards and backwards be used to add and subtract numbers? What strategies can be used to add or subtract? How can fact families help in finding sums and differences?

**Benchmark:K-4 I B: Understand the meaning of operations and how they relate to one another.**  
**I C: Compute fluently and make reasonable estimates.**  
**II B: Represent and analyze mathematical situations and structures using algebraic symbols.**  
**II C: Use mathematical models to represent and understand quantitative relationships.**

<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
I B 1. Find the sum of two whole numbers up to two digits long. <i>Mastery</i>	<b>Addends in the bag:</b> Students write 6 1-digit numbers (1-20) on slips of paper and place them in a bag. Students choose 2 slips of paper to generate and solve an addition problem. Students will model the sum using base-ten blocks. <b>(Rep)</b> <b>Doubles-plus-ones:</b> Students will select an addition fact card and select the facts with addends that are one number apart. Using counters, they will model doubles of either addend on their workmats and calculate their sums. Using a T-chart, they will classify the doubles-plus-ones facts and their sums in one column and the other facts in the other. <b>(RP; Rep)</b> <b>Domino Addition:</b> Students will choose one or more addition activities that are found in <u>Domino Addition</u> . Students will summarize the activity chosen and justify how they arrived at their results. <b>(RP; Com)</b> <b>Connecting Cube Addition and Subtraction:</b> Students	Teacher observations and models  T-Chart  Summary and results	<b>*Harcourt Ch. 5-6</b> Bags (1 per student) 6 slips of paper (per student) Base-ten blocks  Addition facts cards Teacher created T-charts Workmats, counters Addition, Number Sense:  <u>Domino Addition</u> by Lynette Long <b>Addition/subtraction practice games:</b> <a href="http://www.aplusmath.com/Games/matho/AddMatho.html">http://www.aplusmath.com/Games/matho/AddMatho.html</a> <a href="http://www.aplusmath.com/Games/matho/AddMatho.html">http://www.aplusmath.com/Games/matho/AddMatho.html</a>	<u>10 for Dinner</u> by Jo Ellen Bogart <u>Domino Addition</u> by Lynette Long
I C 1. Use and explain strategies for				

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<p>addition and subtraction of multi-digit whole numbers. <b>Mastery</b></p> <p>4. Select and use a variety of appropriate strategies methods to compute (e.g., objects, mental computation, estimation, paper and pencil). <b>Mastery</b></p>	<p>will connect cubes together in a row and count the total number of cubes. They will then take away some of the cubes and count how many cubes are left. Students will generate a number sentence to represent what they did. Students will reconnect the cubes, count them again and construct the new number sentence. (Ex. <math>10-3=7</math>, <math>7+3=10</math>) <b>(Rep)</b></p>	<p>Number sentences generated by the students</p>	<p><a href="http://www.planetblasterbasics.com/index.html">mes/PlanetBlasterBasics/index.html</a>  <a href="http://www.aplusmath.com/Flashcards/addition.html">http://www.aplusmath.com/Flashcards/addition.html</a>  <a href="http://www.aplusmath.com/Flashcards/subtraction/html">http://www.aplusmath.com/Flashcards/subtraction/html</a></p>	
<b>Performance Standard</b>	<b>Activities/Strategies</b>	<b>Assessments</b>	<b>Resources/Materials</b>	<b>Suggested Reading</b>
<p>II B1. Use mathematical language to describe a variety of representations and mathematical ideas and situations. <b>Review</b></p> <p>2. Explain the concept of equal (e.g., quantities on both sides of equation are the same) by using objects or giving examples. <b>Review</b></p> <p>3. Construct and solve open number sentences that have variables representing numbers up to 20 (e.g., <math>6 + \square = 20</math>). <b>Mastery</b></p> <p>4. Use objects, words, and symbols to explain the concept of addition. <b>Mastery</b></p> <p>II C 1. Model situations of addition and subtraction of whole numbers using objects, pictures, and symbols. <b>Mastery</b></p> <p>3. Solve addition and subtraction problems by using data from simple charts, picture graphs, and number sentences. <b>Introduce</b></p>	<p><b>Solving story problems:</b> Students will choose an index card with a story problem. They will read the problem, create a mental image and draw pictures to solve a variety of addition and subtraction to solve story problems. They will illustrate each word problem and write the corresponding number sentence. <b>(PS &amp; Rep)</b></p> <p><b>Creating story problems:</b> Students will throw 2 number cubes and design a story problem using the numbers as addends and write the problem on an index card. They will exchange cards and use drawings to solve the problem. They will write the corresponding number sentences. Create additional story problems with pictures and number sentences. <b>(Com; PS; Rep)</b></p> <p><b>Favorite days of the week graph:</b> Students will create a favorite days of the week graph. They will analyze the graph to determine the favorite day of the week for the class. They will use graph to create addition and subtraction problems. Students will evaluate why one day of the week is more or less popular than another. Journal: Predict which day of the week will be the favorite and explain why they picked that day of the week as their favorite. <b>(Com; PS; Rep)</b></p>	<p>Drawings and number sentences</p> <p>Story problems, drawings and number sentences.</p> <p>Teacher observation and journal entries</p> <p><b>*Addition and Subtraction Strategies: Teacher Determined Unit Assessment</b></p>	<p>Teacher prepared index cards with story problems.</p> <p>Number cubes Index cards CD-ROM <i>Harcourt Mega Math Numberopolis, Carnival Stories</i>, Level K</p> <p>Intervention CD-Rom Problem Solving, strategy/skill 5 Practice in addition and subtraction word problems: <a href="http://www.mathplayground.com/M1FactsAddPic01.html">http://www.mathplayground.com/M1FactsAddPic01.html</a> <a href="http://www.mathplayground.com/M1FactsSubPic01.html">http://www.mathplayground.com/M1FactsSubPic01.html</a> Journal Chart paper</p>	<p>Poem: <i>I'll Share</i> by Becki M. Etheridge (Harcourt 2nd grade TE vol. 1 AN 5) <i>Getting to Sleep</i> by Rozanne Lanczak</p>

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<p>utilizing an understanding of place value (e.g., 48+25 would be 40+20 is 60, 8+5 is 13, 60+13 is 73) <i>Intro</i></p> <p>I.B.1. Find the sum of two whole numbers up to three digits long. <i>Intro</i></p> <p>2. Find the difference of two whole numbers up to three digits long. <i>Intro</i></p>	<p>will take turns spinning to create addition or subtraction problems. Partners will model the problem on their work mats using base-ten blocks and transfer the problems and solutions on their place value charts. The game can also be played with 2 spinners to generate 2-digit numbers. <b>(Rep)</b></p>	<p>value</p>	<p>fruit loops, string</p> <p>2 eight section spinners Place-value charts (TR 50) Work mats Base ten blocks TE pg. 163A</p>	
<b>Performance Standard</b>	<b>Activities/Strategies</b>	<b>Assessments</b>	<b>Resources/Materials</b>	<b>Suggested Reading</b>
<p>I.C.1. Use and explain strategies for addition and subtraction of multi-digit whole numbers. <i>Mastery</i></p> <p>2. Model and solve problems representing adding and subtracting amounts of money using dollars and coins. <i>Mastery</i></p> <p>3. Use addition combinations (addends through 10) and related subtraction combinations, and develop strategies for computing based on number sense (e.g., 25 + 37: Take 3 from the 25 and use it to turn 37 into 40; then add 40 and 22 to get 62). <i>Introduction</i></p> <p>II A.2. Skip-count using calculators or a hundreds chart to identify, describe, predict, and make generalizations about number patterns to differentiate rote counting versus the meaning of the numbers. <i>Mastery</i></p> <p>II.B.3. Construct and solve open</p>	<p><b>2-digit numbers practice:</b> Partners choose a toy card from the 3 by 4 grid and model the price of each toy. Partners work to add the prices together. They will develop number sentences to support their results. <b>(PS; Rep)</b></p> <p><b>Headline Story:</b> Students will create problems that can be solved using information from the headline story (Think Math! TE). Students collaborate as they solve their problem and justify their response. Students may use illustrations of dimes and nickels and/or number sentences to prove their answers. <b>(RP; Com; Rep)</b></p> <p><b>Number sense:</b> Students use addition combinations to develop strategies to solve 2-digit addition problems. (i.e. to add 48 + 27: take 3 from 48 and use it to turn 27 into 30; then add 45 + 30 to get 75). Students collaborate with a partner to develop their strategy and write the initial and final number sentence. Students may use base-ten blocks to check their answers. Students will explain the strategy they used in their journals. <b>(Com; PS; Rep)</b></p> <p><b>Hundreds Chart:</b> Students select a number on the hundreds chart and place yellow sided counter on the starting number. Students will spin to determine if they should add or subtract 2, 5, or 10 and how many times. They will move the red sided counter according to the spin. Students will suggest ways to return to the original according number. <b>(PS; Rep)</b></p> <p><b>Headline Stories:</b> (open-ended problem solving) Students complete a subtraction sentence (ie.20-□=13)</p>	<p>Teacher observations of models and number sentences.</p> <p>Teacher observation, illustrations and/or number sentences.</p> <p>Teacher observation, journal and number sentences.</p> <p>Observation and student responses</p> <p>Journal Entries</p>	<p><a href="http://coolmath4kids.com/addition/04-addition-lesson-two-digit-numbers-01.html">http://coolmath4kids.com/addition/04-addition-lesson-two-digit-numbers-01.html</a> (addition 2 digit numbers) Dimes, pennies, Toy pictures, Teacher Resource book, pg. 76 (TR) Work mats TE. Pg. 113B <a href="http://www.moneyinstructor.com/art/secondgrademoney.asp">http://www.moneyinstructor.com/art/secondgrademoney.asp</a> (teacher resources)</p> <p>Think Math! Data/Probability TG Lesson 3 pg.25 Headline story posted Jar with dimes and nickels (optional) <a href="http://www.internet4classrooms.com/skills_2nd_math.htm#algebra">http://www.internet4classrooms.com/skills_2nd_math.htm#algebra</a> (#5 missing numbers)</p> <p>2 spinners (1 for skip counting rule, 1 for the number of times they must skip) Hundreds chart Counters (2 per student)</p> <p>Think Math! Data/Probability</p>	

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sentences that have variables representing number up to 20 (e.g., $20 = \square + 6$ ). <i>Mastery</i>		and make-up a story about it in their journals. <b>(PS; Com)</b>  Students collaborate to create problems that can be solved using a subtraction sentence with 2 variables missing. They will formulate a table with possible responses. <b>(Com; PS; Rep)</b>	Teacher observation and table <b>*Adding and Subtracting 2-digit Numbers: Teacher Determined Unit Assessment</b>	TG Lesson 4 pg. 31  Think Math! Data/Probability TG Lesson 6 pg. 47	
<b>Year: 2009-2010</b>	<b>Grade: 2</b>	<b>Subject: Mathematics</b> <b>Unit: Money</b>		<b>Quarter: Three</b>	<b>Suggested Time: 3 weeks</b>

<b>Strand II. Algebra</b> <b>Strand IV. Measurement</b>	<b>Standard II: Students will understand algebraic concepts and applications.</b> <b>Standard IV: Students will understand measurement systems and applications.</b>
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**Essential Questions:** What are the different types of coins and their value? How can different combinations of coins can be used to model the same amount? Why is it important in the real world to know how to count coins?

<b>Benchmark: K-4: II C: Use mathematical models to represent and understand quantitative relationships.</b>				
<b>IV A: Understand measurable attributes of objects and the units, systems, and process of measurement.</b>				
<b>Performance Standard</b>	<b>Activities/Strategies</b>	<b>Assessments</b>	<b>Resources/Materials</b>	<b>Suggested Reading</b>
2. Solve problems related to trading (e.g., coin trading, measurement trading). <i>Mastery</i>	<b>Trading Center:</b> Student rolls a number cube and takes that number of pennies and places them in the trading center (empty muffin tin section). If there are 5 pennies, students trade them for a nickel and return the pennies to their section and the nickel goes in the Trading Center. Continue play until 1 child trades for the half dollar. <b>(PS)</b>	Teacher observation	<b>*Harcourt Ch. 12-13</b> (Counting and Using Money) TE. Pg. 207B Muffin tins for each group with pennies, nickels, dimes, quarters and one half dollar Number cube (dice) <a href="http://www.toonuniversity.com/flash.asp?err=569&amp;engine=">http://www.toonuniversity.com/flash.asp?err=569&amp;engine=</a>	<u>If You Made a Million</u> by David M. Schartz (trading money amounts)  “The Animal Store” by Rachel Field  <u>Arthur’s Funny Money</u> by Lillian Hoban
4. Find and represent the value of a collection of coins and dollars up to \$5.00, using appropriate notation. <i>Introduce</i>	<b>Money Center:</b> Students will choose an envelope count the money and note the amount on a sticky note. After counting the money in each envelope. Student should: 1. Organize their amounts from smallest to greatest. 2. Reorganize the amounts and categorize them as odd or even. Students will create a T-chart to portray the odd or even numbers in their journals. <b>(PS; Rep)</b>	Sticky notes and T-charts          Drawings of coins	(coin values)          <a href="http://www.aaamath.com/B/g1_211x3.htm#section3">http://www.aaamath.com/B/g1_211x3.htm#section3</a> (counting money using dimes, nickels and pennies)	<u>A Little Bit of Change</u> by Lucy Floyd  <u>The Coin Counting Book</u> by Rozanne Lanczak

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		<b>Show Me the Money:</b> Student/teacher holds up a card with an amount of money on it and says, "Show me the money!" Partner/students represent the amount with coins and drawings of coins on paper. If working in pairs, students will take turns representing the amounts. (Rep; RP)			<b>*Money: Teacher Determined Unit Assessment</b>		
<b>Year: 2009-2010</b>	<b>Grade: 2</b>	<b>Subject: Mathematics</b> <b>Unit: Fractions/Numbers to 750</b>			<b>Quarter: Three</b>	<b>Suggested Time: 1 week</b>	

<b>Strand I Numbers and Operations</b>	<b>Standard I: Students will understand numerical concepts and mathematical operations.</b>
<b>Essential Questions: How can equal fractional parts be used to make a whole? How can a whole or a group be divided into equal parts? How can fractional parts be named and represented?</b>	

**Benchmark: K-4: I A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.**

<b>Performance Standard</b>	<b>Activities/Strategies</b>	<b>Assessments</b>	<b>Resources/Materials</b>	<b>Suggested Reading</b>
<p>2. Apply counting skills and number sense through meaningful activities</p> <ul style="list-style-type: none"> <li>• model how many parts make a whole using equal fractional parts (e.g., <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, and <math>\frac{1}{6}</math> as equal parts of a whole)</li> </ul> <p><i>Intro/ Mastery</i></p>	<p><b>Fraction Circles:</b> Students will devise ways to divide different colored circles in 2, 3, 4 and 6 equal parts. One circle will remain whole and represent the number 1. They will label each section of the divided circles with the corresponding fraction (<math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{6}</math>). (PS &amp; Rep)</p> <p><b>Candy Bar Sharing:</b> On a Candy Bar Sharing Sheet, students will devise ways to divide the candy bars so that each group member receives the same amount. Students will share strategies on how they divided their candy bar in writing and with the whole group. (PS; Com; Rep)</p>	<p>Divided circles and their labels</p> <p>Candy Bar Sharing Sheet</p> <p><b>*Fractions; Teacher Determined Unit Assessment</b></p> <p>Teacher observation and student journals.</p>	<p><b>*Harcourt Ch. 26</b> (Fractions) CD ROM: <u>Harcourt Mega Math, Shapes Ahoy! Ship Shapes</u>, Levels S-V ( fractions and fractions equal to 1) 5 different colored circles(per student) Candy Bar Sharing Sheet <a href="http://www.beaconlearningcenter.com/WebLessons/FabulousFractions/page6.htm">http://www.beaconlearningcenter.com/WebLessons/FabulousFractions/page6.htm</a> <a href="http://www.aaamath.com/B/g21c_px1.htm#section2">http://www.aaamath.com/B/g21c_px1.htm#section2</a>( 3-digit place value) <a href="http://www.eyepleezers.com/aaamath/cnt.htm#topic11">http://www.eyepleezers.com/aaamath/cnt.htm#topic11</a> (counting)</p> <p>CD ROM: <u>Harcourt Mega Math, Numberopolis, Cross Town Number Line</u>, Levels V, W (Missing numbers up to</p>	<p><u>Trouble at the Cookout</u> by Betsy Franco (fractions)</p> <p><u>A Birthday Cake for Little Bear</u> by Max Velthuijs</p>
<p>2. Apply counting skills and number sense through meaningful activities:</p> <ul style="list-style-type: none"> <li>• count and recognize "how many" in sets of objects up to 1,000 <i>Mastery</i></li> <li>• count forward and backward from given numbers to 1,000 <i>Mastery</i></li> <li>• connect number words and numerals to the quantities they represent using physical models and other</li> </ul>	<p><b>Fruit Loops:</b> Students will count out 100 groups of 10 fruit loops. Students will predict how many fruit loops the class has and how long they think the string of fruit loops will be. Each student will add 10 fruit loops to the class string and keep track of groups of 100 in their journals (skip counting by 10 to 750.) Measure the finished product and compare and contrast the result with their predictions in their journals. (PS; Rep)</p>			

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representations (e.g., 23 can be twenty-three 1s, one 10 and thirteen 1s, or two 10s and three 1s) <i>Mastery</i>	<b>Many ways to name a number:</b> One student will write a 3-digit number and the next student will choose a different way to represent the number. (i.e. use base ten blocks, words, place value chart etc.) <b>(Rep)</b>	Representations of 3-digit numbers	1000, skip counting, counting numbers) <i>Lulu's Lunch Counter</i> , Level T (Make a Model) Dry erase boards, place value chart, base ten blocks
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<b>Year:</b> 2009-2010	<b>Grade:</b> 2	<b>Subject:</b> Mathematics <b>Unit:</b> Telling Time	<b>Quarter:</b> Three	<b>Suggested Time:</b> 1-2 weeks
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<b>Strand IV. Measurement</b>	<b>Standard IV: Students will understand measurement systems and applications.</b>
<b>Essential Questions: Why is it useful to know how to tell time? How are time intervals identified and used? What are different ways to tell time?</b>	

**Benchmark: K-4: IV A. Understand measurable attributes of objects and the units, systems, and process of measurement...**

<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
5. Identify and use time intervals (e.g., hours, days, weeks, months). <i>Mastery</i>	<b>Half-hour land:</b> Students plan a day's activities in a land where everything happens on the half-hour. Each group will complete their labeled daily schedule from 8:30-2:30. Each student will record their schedules using analog and digital clock faces. <b>(Con; Rep)</b>	Daily schedule and clock face sheets.	* <b>Harcourt Ch. 14</b> (Telling Time)  Analog clock face sheets (2 per student) Digital clock face sheets (1 per student) Labeled daily schedule (1 per group) TE. 249B	<i>Tweet and Chirp</i> by Barbara Glover  <u><i>Clocks and More Clocks</i></u> by Pat Hutchins
7. Tell time to the nearest quarter hour. <i>Mastery</i>  <b>(Strand V. A. 5)</b>	<b>Quarter hour practice:</b> Student draws a time to the hour. The next student spins the pointer to determine the number of 15-minute intervals to move the hand forward. They draw the new time and note how much time has passed. Play continues until each player has a turn to spin. <b>(Rep)</b> Extension: play moving hand backward.  <b>Time Concentration:</b> Students will arrange cards face	Clock drawings	Analog face sheets Small clock faces (optional) <a href="http://www.teachingtime.co.uk/draggames/sthec2.html">http://www.teachingtime.co.uk/draggames/sthec2.html</a> (time to the half-hour and quarter hour)  * <b>Harcourt Ch. 15</b> (Understanding Time)	

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		down. The first player turns 2 cards over, reads them aloud and determines if they are equal. If so, they keep the pair. If not, they point to the greater time value and turn over cards. Students take turns until all matches are made. They rank time values in journal from shortest to greatest time value. <b>(PS; Rep)</b>	Teacher observation and journal  <b>*Time: Teacher Determined Unit Assessment</b>	Index cards labeled 60 minutes, 1 hour, 24 hours, 1 day, 7 days, 1 week, 28, 29,30 or 31 days, or 52 weeks or 1 month, 12 months, and 1 year.	
<b>Year: 2009-2010</b>	<b>Grade: 2</b>	<b>Subject: Mathematics Unit: Interpreting Graphs</b>		<b>Quarter: Three</b>	<b>Suggested Time: 1-2 weeks</b>

<b>Strand V. Data Analysis and Probability Strand III. Geometry</b>	<b>Standard V: Students will understand how to formulate questions, analyze data, and determine probability. Standard III: Students will understand geometric concepts and applications.</b>
<b>Essential Questions: How can data collected through surveys be displayed? How are maps, directions, and landmarks used to find locations?</b>	

**Benchmark: K-4: V A: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.**

**III B: Specify locations and describe spatial relationships using coordinate geometry and other representational systems.**

<b>Performance Standard</b>	<b>Activities/Strategies</b>	<b>Assessments</b>	<b>Resources/Materials</b>	<b>Suggested Reading</b>
V A 2. Represent data by using concrete objects, pictures, tables, numbers, tallies, and graphs. <b>Mastery</b>	<b>Favorite Breakfast:</b> Students will survey group members to find their favorite breakfast food. As a group they will make a tally table to show results. Students will make a prediction based on their results about the whole class. Then survey the rest of the class to check predictions. Class will discuss results. <b>(Con; Rep; RP; Com)</b>	Tally tables and predictions	<b>*Harcourt Ch. 16</b> Paper, pencil Identical pictures	<u>The Napping House</u> by Audrey Wood (relative position)
III B 1. Find and name locations with simple relationships like “near to” and apply ideas about relative position. <b>Mastery</b>	<b>Where are they?</b> Using two identical pictures, one student arranges objects on their picture and must communicate the relative position of objects to their partner. The partner must then deduce where to position their objects. <b>(Com)</b>	Self check by removing divider and comparing pictures	Objects to place on pictures (i.e. cows, pigs, counting bears or counters)  <a href="http://www.syvum.com/cgi/online/serve.cgi/kwps/ksmatzj.saj">http://www.syvum.com/cgi/online/serve.cgi/kwps/ksmatzj.saj</a> Map activity	<u>X Marks the Spot</u> by Lucille Recht Penner
2. Describe, name, and interpret direction in navigating space and apply ideas about direction and distance. <b>Introduce</b>	<b>Playground Scavenger:</b> Students follow clues to discover various objects hidden on the playground (or classroom). Each object will lead them to next clue. <b>(PS)</b>	Discovery of objects	Map of playground or classroom Clue cards Objects to hide	
3. Use maps to locate points and	<b>Secret Location:</b> Using a map, students will follow teacher directions, landmarks and the compass rose to			

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navigate through mazes or maps. <i>Introduce</i>	reach a particular destination. Students will create different pathways to return to the original location. Before their “journey,” students will make predictions as to the “secret location.” Extension: Students will take turns visualizing and creating pathways to a location and give directions for their group to follow. (PS; Com)	Student response and teacher observation  <b>*Interpreting Graphs: Teacher Determined Unit Assessment</b>	<b>*Harcourt NM 3-6</b> (Location/Maps) Laminated maps, dry-erase markers or tokens <a href="http://www.mrsbogucki.com/cgi-bin/quiz.pl?FILE=mapping">http://www.mrsbogucki.com/cgi-bin/quiz.pl?FILE=mapping</a>	
<b>Year: 2009-2010:</b>	<b>Grade: 2</b>	<b>Subject: Mathematics Unit: Probability</b>	<b>Quarter: Three</b>	<b>Suggested Time: 1 week</b>

<b>Strand V. Data Analysis and Probability</b>	<b>Standard V: Students will understand how to formulate questions, analyze data, and determine probability.</b>
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**Essential Questions: Why is it important to know that all events are not equally likely to happen? How can the likelihood of outcomes of events be determined? How can a table be used to determine probability in a story problem?**

**Benchmark: K-4: IV A: Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.  
B. Select and use appropriate statistical methods to analyze data.  
C. Develop and evaluate inferences and predictions that are based on data.  
D. Understand and apply basic concepts of probability.**

<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
A.3. Pose questions about students’ selves and their surroundings and gather data by interviewing, surveying, and making observations to answer the questions posed. <i>Mastery</i> B.1. Describe and interpret data by drawing conclusions and making conjectures based on the data collected. <i>Mastery</i> C.1. Discuss events related to students’ experiences as “likely” or “unlikely” and “possible” or “certain.” <i>Mastery</i> 2. Recognize appropriate conclusions	<b>Favorites:</b> Students will collaborate to make a bar graph to solve problems (i.e. favorite season, favorite sport, color). Students will decide how to collect the record, collect and record the data. They will generate two sentences about the data recorded. They will create an addition or subtraction problem that can be solved using the data from the graph and the class will deduce the solutions. (PS; Rep; Com; Con)  <b>Play Number Race:</b> Students predict which number is most likely to occur when 2 number cubes are rolled and the numbers are added together. Students roll two prepared number cubes and record sums in a bar graph. Students discuss the likelihood of specific numbers winning the race and conclude why they will occur more often. . (R P, Con, Rep; Com)	Display graphs, sentences and problems.  Student discussion and graphs  Teacher observation	<b>*Harcourt Ch. 16</b> (Interpret Tables and Graphs) CD-ROM <u>Harcourt Mega Math – Country Countdown, White water graphing</u> Level F-J <i>Numberopolis, Wash’n Spin</i> , levels B-I (likelihood) Think Math! Data/Probability TG pg. 27 Number cube (1-60) Number cube (7-12) <a href="http://www.beaconlearningcenter.com/WebLessons/KidsHavePets/default.htm#page6">http://www.beaconlearningcenter.com/WebLessons/KidsHavePets/default.htm#page6</a> (bar	<u>Probably Pistachio</u> by Stuart J. Murphy

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<p>generated from the data collected. <b>Mastery</b> 3. Recognize inappropriate descriptions of the data set. <b>Mastery</b></p>	<p><b>Probability (equally likely):</b> Students will put two different counters into a bag. The students will make predictions in their journal, before each draw. Students will draw one counter at a time. They will draw from the bag 20 times. Tally how many times each counter is drawn from the bag. <b>(Rep)</b></p>	<p>and Journal with predictions and results.</p>	<p>graph) <b>*Harcourt Ch. 17</b> (Probability) Counters (2 per student or pair) Bags(1 per student or pair)</p>	
<b>Performance Standard</b>	<b>Activities/Strategies</b>	<b>Assessments</b>	<b>Resources/Materials</b>	<b>Suggested Reading</b>
<p>D.1. Investigate concepts of chance (e.g., outcomes of a simple experiment). <b>Introduce</b> 2. Investigate whether outcomes of a simple event are equally likely to occur. <b>Introduce</b> 3. Solve addition and subtraction problems by using data from simple charts, picture graphs, and number sentences. <b>Mastery</b></p>	<p><b>Red, white and blue:</b> Students will observe as the teacher places 1 white marble, 1 red marble, and 2 blue marbles into a small bag. Students will predict which color a person would be most likely to draw. The bag will be passed around the room and each student will draw a marble. (The marble that is drawn is placed back into the bag.) On the board, a student will keep a tally of each color that is drawn. Which was drawn most often? Student will explain in their journals that while <i>possible</i> to draw a white or red marble most often, it wasn't probable. Is it impossible to draw a green marble? The color combinations will be changed to 1 red and 1 blue and students will predict the outcome (equally likely). . <b>(RP, Con, Rep; Com)</b></p>	<p>Journal entries and predictions</p>	<p>Bag of marbles  <a href="http://www.beaconlearningcenter.com/WebLessons/WhyCanIWin/default.htm">http://www.beaconlearningcenter.com/WebLessons/WhyCanIWin/default.htm</a>  <a href="http://www.beaconlearningcenter.com/WebLessons/WhatAreMyChances/default.htm">http://www.beaconlearningcenter.com/WebLessons/WhatAreMyChances/default.htm</a></p>	

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<b>Review/Introduce</b> 2. Use materials to investigate rotational and line symmetry and create shapes that have symmetry. <b>Introduce</b>	<b>Symmetry Search:</b> Students examine picture books or magazines for examples of symmetry. Students will justify their choices with the class by pointing out symmetrical features. Students will draw an example of something with symmetry. <b>(RP, Con, Rep; Com)</b>	Examples and drawing		
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<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
<p>D.1. Demonstrate relationships of different attributes with concrete materials (e.g., change one characteristic of a shape while preserving others such as increasing number of sides while perimeter stays the same). <b>Introduce</b></p> <p>2. Select and use visualization skills to create mental images of geometric shapes. <b>Introduce</b></p> <p>3. Describe geometric shapes and structures from different perspectives. <b>Mastery</b></p> <p>5. Recognize geometric shapes and structures in the environment and specify their location. <b>Review/Introduction</b></p>	<p><b>Creating Symmetry:</b> Students will use a geoboard and/or tangrams to design shapes that have symmetry. They will reconstruct the shape on dot paper. Students will then recreate the shape on the geoboard in a different position that requires one flip, turn, or slide. They will add the shape in its new position on the dot paper including the line of symmetry. <b>(PS; Rep)</b></p> <p>Students will investigate designs and solve puzzles using pentominoes and/or tangrams. <b>(PS)</b></p> <p><b>Attribute Card Game:</b> Students will turn over cards in order. They will visualize figures that have the attribute on the cards and guess what the solid figure is before turning over the final card. Journal: Choose one solid figure and describe it from 2 different angles. <b>(PS; Com)</b></p> <p><b>Change it!</b> Students will create geometric shapes with Wikki sticks or pipe cleaners. They will measure sides to find perimeter. Students will change one characteristic of the shape and remeasure to assure that the perimeter remains the same. Students will draw a figure before and after the change and label them with their perimeters. <b>(Con; Rep)</b></p> <p><b>Recognize geometric shapes:</b> Students will investigate geometric solids and examples in the classroom and create a chart displaying their results. <b>(Con; Rep)</b></p>	<p>Geoboards and drawings</p> <p>Teacher Observation</p> <p>Self- assessment, illustrated descriptions/journal</p> <p>Drawing</p> <p>Chart</p> <p><b>*Geometry: Teacher determined Unit Assessment</b></p>	<p>CD ROM <u>Harcourt Mega Math, Shapes Ahoy! Ship Shapes</u>, level L, N,O,P (congruence, symmetry, slides, flips and turns) geoboards dot paper Tangrams Pentominoes <a href="http://www.learningresources.com/category/id/100791_do?KickerID=100681&amp;KICKER">http://www.learningresources.com/category/id/100791_do?KickerID=100681&amp;KICKER</a> (teacher resource page for dot paper, worksheets and games) <b>*Harcourt Ch. 19</b> (Solid Shapes) See TE. Pg. 333B (4 colors of index cards labeled with figure faces, edges and vertices.)</p> <p><a href="http://www.beaconlearningcenter.com/WebLessons/GeoCleo/default.htm">http://www.beaconlearningcenter.com/WebLessons/GeoCleo/default.htm</a> (lesson on faces, edges, vertices of 3-D shapes) Wikki sticks, pipe cleaners</p>	

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6. Select and use appropriate measurement tools (e.g., ruler, yardstick, meter stick) <i>Introduce</i>	shortest). They will rearrange them according to mass (heaviest to lightest) and area (largest to smallest). Were the objects always placed in the same order? Why or Why not? (PS)	teacher observation	Objects to compare TE. 383B Paper clips, rulers, objects to measure	
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<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
<p>B.1. Develop common referents to make comparisons and estimates of length, volume, weight, area, and time. <i>Introduce</i></p> <p>2. Develop an understanding that different measuring tools will yield different numerical measurements of the same object (e.g., ruler, yardstick, meterstick, paper clip). <i>Introduce</i></p> <p>3. Estimate measurements and develop precision in measuring objects. <i>Introduce</i></p>	<p><b>How long is it?</b> Students will measure several classroom objects using paper clips. They will create a measuring word problem that can be solved using addition and/or subtraction and exchange it with another group to solve the problems. Extension: Students measure the same objects to the nearest inch and create chart noting both measurements. (PS; Rep)</p> <p><b>Inches, feet, and yards:</b> Students will divide a large paper into thirds and label the top of each column with inch, foot, and yard. They will brainstorm a list of objects that could be measured with each unit of measure and choose examples to illustrate on individual charts. (Con; Rep)</p> <p><b>Which tool do I use?</b> Students will divide a paper into fourths and draw pictures of different measuring tools. i.e.; ruler, thermometer, scale, and cup in each quadrant. Students will select something that can be measured with each tool. They will write the attribute that each tool measures and draw an example for each one. (Rep)</p> <p><b>Measure and compare:</b> Students will decide which of a group of rectangles and squares has the greatest and least area. Students will then cover the shapes with color tiles and write the number of tiles on each shape. Students will then arrange the shapes from least to greatest area. Students will share their results with a partner. (PS; Com)</p> <p><b>Conversions (liquid measures):</b> Students will roll a number cube and use the number to generate a question that involves converting between units (i.e., How many</p>	<p>Word problems</p> <p>Individual chart</p> <p>Chart</p> <p>Shape arrangement</p> <p>Problem and solution cards</p>	<p>*Harcourt Ch. 23 *Harcourt Ch. 25 See TE p. 433 Large construction paper, crayon</p> <p>Ruler, yardstick, paper</p> <p>Real thermometer, scale, cup and ruler Paper and objects to measure</p> <p>Paper squares and rectangles of different sizes; color tiles</p> <p><a href="http://www.shodor.org/interactivate/activities/AreaExplorer/?version=1.5.0_10&amp;browser=MSIE&amp;vendor=Sun_Microsystems_Inc">http://www.shodor.org/interactivate/activities/AreaExplorer/?version=1.5.0_10&amp;browser=MSIE&amp;vendor=Sun_Microsystems_Inc</a> <u>Sam's Sneaker Square</u> by Nat Gabriel (area) See TE p. 401B</p> <p>Cup, pint, quart, gallon Number cube Index cards</p>	

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<i>Mastery</i>	<b>Betcha!</b> After reading the book, <u>Betcha!</u> , students will classify, count and measure numbers to 1000. (PS)	of student participation in classifying, counting and measuring numbers	<a href="http://ter.com/WebLessons/Twins/default.htm#page1">ter.com/WebLessons/Twins/default.htm#page1</a> (odds/evens)  <u>Betcha!</u> By Stuart J. Murphy	
<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
<p>• compare and order numbers using a variety of terms (e.g., tens, less than, odd numbers) <i>Mastery</i></p> <p>• apply strategies for computation utilizing an understanding of place value (e.g., <math>48 + 25</math> would be <math>40 + 20</math> is 60, <math>8 + 5</math> is 13, <math>60 + 13</math> is 73)</p> <p><i>Mastery</i></p> <p>2. Apply counting skills and number sense through meaningful activities:</p> <ul style="list-style-type: none"> <li>• count and recognize “how many” in sets of objects up to 1,000 <i>Mastery</i></li> <li>• count forward and backward from given numbers to 1,000 <i>Mastery</i></li> <li>• connect number words and numerals to the quantities they represent using physical models and other representations (e.g., 23 can be twenty-three 1s, one 10 and thirteen 1s, or two 10s and three 1s) <i>Mastery</i></li> </ul> <p>B. 1. Find the sum of two whole numbers up to three digits long (e.g., <math>235 + 476 = \square</math>; <math>564 - 273 = \square</math>) <i>Mastery</i></p> <p>2. Find the difference of two whole numbers up to three digits long. <i>Mastery</i></p> <p>3. Understand and use the inverse relationships between addition and subtraction to solve problems and</p>	<p><b>Compare 3-digit numbers:</b> Students roll 3 number cubes to get a 3-digit number. They roll another set of three number cubes to get another 3-digit number. The group arranges the number cubes and a sign card to compare the numbers created. They collaborate to represent the numbers and symbols in words on index cards and read the word names and comparative phrase aloud. (Com; Rep; PS)</p> <p><b>Fruit Loops:</b> Students will count out 100 groups of 10 fruit loops. Students will predicate how many fruit loops the class has and how long they think the string of fruit loops will be. Each student will add 10 fruit loops to the class string and keep track of groups of 100 in their journals (skip counting by 10 to 100.) Measure the finished product and compare and contrast the result with their predictions in their journals. (Rep; RP)</p> <p><b>Craft stick counting:</b> Students bundle 10 craft sticks together to make tens. They will bundle 10 tens together to make 100. They will represent 3 consecutive 3-digit numbers with bundles of craft sticks and place their models in order from least to greatest. They will name each number in words, in expanded form and in a place-value chart. Extension: Students will name and represent the number that comes just before and after the sequence. (Rep; Com)</p> <p><b>Adding and Subtracting Hundreds:</b> Students will spin two spinners to generate number sentences for addition and subtraction using single digits. Below the sentence, they will reframe the sentence using</p>	<p>Index cards and student presentations</p> <p>Teacher observation and student journals.</p> <p>Models and number names</p> <p>Number sentences</p>	<p>6 number cubes per group Index cards</p> <p>Fruit loops, string</p> <p>CD ROM: <u>Harcourt Mega Math</u>, <u>Crosstown Number Line</u>, Levels V, W (missing numbers, order numbers, skip counting to 1000)</p> <p>Craft sticks, rubber bands Index cards Place-value charts</p> <p>See TE pp. 487A-B</p> <p>Spinner labeled 1-4, spinner labeled 1-5</p>	<p><b>Literature:</b> <u>Recess Races</u> by Betsy Franco (counting by 1’s, 10’s and 100’) <u>The King’s Chessboard</u> by David Berch (counting large numbers) <u>I Like Cars</u> by Margaret Wise Brown (3-digit numbers) <u>Larry’s New Mitt</u> by Linda Cave (adding and subtracting money up to 3-digits)</p>

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Year: 2009-2010	Grade: 2	Subject: Mathematics Unit: Arrays	Quarter: Four	Suggested Time: 1 week
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Strand II: Geometry	Standard II: Students will understand geometric concepts and applications.
Essential Questions: How are arrays used to represent repeated addition or multiplication?	

**Benchmark: K-4. B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.  
D. Use visualization, spatial reasoning, and geometric modeling to solve problems.**

<i>Performance Standard</i>	<i>Activities/Strategies</i>	<i>Assessments</i>	<i>Resources/Materials</i>	<i>Suggested Reading</i>
<p>B. 5. Make and draw rectangular arrays of squares. <i>Introduce</i></p> <p>D. 4. Relate geometric ideas to numbers (e.g., seeing rows in array as a model of repeated addition). <i>Introduce</i></p>	<p><b>Arrays:</b> Students will place 2 rows of 4 counters on 1-inch grid paper. They will represent the array using repeated addition and multiplication number sentences. (<math>4+4=8</math>, <math>2 \times 4=8</math>) Students will predict what would happen if they rotate the grid. Students will rotate the grid to show 4 rows of 2 and write the matching number sentences. (<math>2+2+2+2=8</math>, <math>4 \times 2=8</math>) In their journals students will establish if the products were the same and explain their results. Students will repeat the activity developing their own arrays. <b>(Rep; PS; Com)</b></p> <p><b>Array story problems:</b> Students will create story problems that describe arrays. Students will exchange problems, design the array described and generate an addition and multiplication sentence to solve the problem. <b>(PS; Rep; Con; Com)</b></p>	<p>Teacher observations and journals</p> <p>Story problems, drawings and number sentence</p> <p><b>*Arrays: Teacher Determined Unit Test</b></p>	<p><b>*Harcourt Ch. 30</b> (Multiplication and Division Concepts)</p> <p>Counters, 1-inch grids (per group)</p> <p>CD ROM <u>Harcourt Mega Math</u>, <u>Numberopolis</u>, <u>Carnival Stories</u>, Level S <u>Country Countdown</u>, <u>Counting Critters</u>, Levels V-W (arrays)</p> <p>See TE p. 525B</p>	<p><u>A Birthday Cake for Little Bear</u> by Max Velthuijs <u>3 Messy Dragons</u> by Fay Robinson and Kathryn Corbett <u>Divide and Ride</u> by Stuart J. Murphy</p>

R=Review  
I=Introduce  
M=Mastery

PS=Problem Solving  
RP=Reasoning and Proof  
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Portales Municipal Schools  
UNIT MAP

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