

2014-15
Mathematics Pacing Guide
Second Grade

Time Frame: 7 Weeks – September- October
Unit 1: Number and Operations in Base Ten

Standards for Mathematical Practice	Literacy Standards
<ul style="list-style-type: none"> 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others 4. Model with mathematics 5. Use appropriate tools strategically 7. Look for and make use of structure 	<p>RI.2.1 Ask and answer such questions as <i>who, what, where, when, why and how</i> to demonstrate understanding of key details in a text. .</p> <p>RI.2.4 Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</p> <p>RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, Icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media</p> <p>SL.2.3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>L.2.3 Use knowledge of language and its conventions when writing, speaking, reading or listening.</p> <ul style="list-style-type: none"> a. Compare formal and informal uses of English. <p>L.2.5 Demonstrate understanding of word relationships and nuances in word meanings.</p> <ul style="list-style-type: none"> a. Identify real life connections between words and their use.

Common Core	Essential Questions	Assessments	Assessment Date	Vocabulary	Resources
<p>CRITICAL AREA: Extending understanding of base-ten notation</p> <p>Understand place value 2.NBT.1 Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:</p> <p>a. 100 can be thought of as a bundle of ten tens — called a “hundred.”</p> <p>b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).</p> <p>2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.</p> <p>2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.</p> <p>2.NBT.4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons.</p> <p>2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of</p>	<p>Essential Question What is place value?</p> <p>Scaffold Questions How can numbers be grouped? How can numbers be represented? What is the importance of adding and subtracting with place value? How does place value affect our lives?</p>	<p>Curriculum Crafter MY Math-Chapters 5-7</p> <p>Before: Observation</p> <p>Basic addition/ subtraction skill pretest</p> <p>During: Flash cards-addition and subtraction facts</p> <p>Timed test/quiz (addition and subtraction facts)</p> <p>Label blank place value charts</p> <p>White Board Practice “How many tens are in the number 346?”</p> <p>Use $<$, $>$, to compare two numbers</p> <p>Observation</p> <p>Oral counting 5, 10’s, 100’s</p> <p>After: Test/Mini quizzes-addition facts, subtraction facts, place value, compare numbers, skip counting</p>	<p>2015-16: 10.26.15</p> <p>Pre-test 9/25/14</p> <p>Post-test 11/13/14</p>	<p>addends addition charts compare count diagrams difference equal equation estimate even fact families graphs greater than hundreds less than locate number number line odd ones ordering pairing place value quantities rounding sequence series skip counting subtraction sum tens thousands whole number</p>	<p>Literacy Connections: Hong, Lily Toy. <i>Two of Everything</i>. Albert Whitman and Company. ISBN 978-0-8075-8157-5.1993.</p> <p>Tang, Greg. <i>Math-terpieces the Art of Problem-Solving</i>. Scholastic Press. ISBN 0-439-44388-1. 2003.</p> <p>Leedy, Loreen. <i>Subtraction Action</i>. Holiday House, Inc. ISBN 0-8234-1454-X.2000.</p> <p>Tang, Greg. <i>The Grapes of Math: Mind Stretching Math Riddles</i>. Scholastic. ISBN 0-439-21033-X. 2001.</p> <p>Murphy, Stuart. <i>Shark Swimathon</i>. Harper Collins. ISBN 0-06-446735-X. 2001.</p> <p>Murphy, Stuart. <i>Earth Day-Hooray!</i> Harper Collins. ISBN 0-06-000129-1. 2004.</p> <p>Instructional Resources http://learningbox.com/Base10/BaseTen.html http://www.funbrain.com/cgi-bin/osa.cgi?A1=s&A2=0&INSTRUCTS=1 http://www.funbrain.com/cgi-bin/nl.cgi?A1=s&A2=1&INSTR</p>

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operation.					<p>CTS=1</p> <p>http://illuminations.nctm.org/ActivityDetail.aspx?ID=75</p> <p>Math Lessons: www.aaastudy.com</p> <p>Math Games: www.gamequarium.com www.arcademicskillbuilders.com www.mathisfun.com</p> <p>www.aplusmath.com</p> <p>Calculator and Me: Addition - In pairs, students each draw a card from a deck of playing cards (1-10). One student uses a calculator and the other uses addition strategies to race and find the sum of the numbers on the cards.</p> <p>Subtraction Compare-It - Use the cards or dice to generate subtraction problems. The player with the largest difference wins the round.</p> <p>Placing Digits-Students use a deck of cards (0-9). Each player draws two cards and arranges them to make the largest possible number. The player with the largest number takes all four cards.</p> <p>Math Software, Worksheets, and</p>

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					<p>Games:</p> <ul style="list-style-type: none"> - www.superkids.com - http://www.ictgames.com/sharknumbers.html - http://www.quia.com/mc/279741.html - http://www.ictgames.com/sharkNumbers/sharkNumbers_v5.html - http://illuminations.nctm.org/LessonDetail.aspx?ID=L876 - http://www.ictgames.com/abacusInteger.html - http://www.learningbox.com/Base10/BaseTen.html - http://www.ictgames.com/LIFEGUARDS.html - http://www.ictgames.com/100hundredsplus10.html - http://www.ictgames.com/100hundreds2.html - http://www.ictgames.com/arrowCards_revised_v5.html <p>MAISA curriculum unit and resources for addition and subtraction facts & place value: http://gomaisa-public.rubiconatlas.org/Atlas/Browse/UnitMap/View/Default?UnitID=16399&YearID=2013&SchoolID=19&TimePeriodID=14&SourceSiteID=&CurriculumMapID=802&</p> <p>Manipulatives: Base ten blocks Fact Triangles</p>

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					Number lines Hundreds chart Flash cards Counters http://apps.svsu.edu/mathsci-center/uploads/math/LowerElementary.html This site has multiple resources of all types for teachers and students.
<p>CRITICAL AREA: Building fluency with addition and subtraction</p> <p>Add and subtract within 20. 2.OA.2 Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers.</p>	What are math facts?		Pre-test 9/25/14 Post-test 11/13/14		

**Mathematics Pacing Guide
Second Grade**

**Time Frame: 7 Weeks – November-December
Unit 2: Number and Operations in Base Ten**

Standards for Mathematical Practice	Literacy Standards
<ul style="list-style-type: none"> 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others 4. Model with mathematics 5. Use appropriate tools strategically 7. Look for and make use of structure 8. Look for and express regularity in repeated reasoning 	<p>RI.2.1 Ask and answer such questions as <i>who, what, where, when, why and how</i> to demonstrate understanding of key details in a text. .</p> <p>RI.2.4 Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</p> <p>RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, Icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media</p> <p>SL.2.3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>L.2.3 Use knowledge of language and its conventions when writing, speaking, reading or listening.</p> <ul style="list-style-type: none"> a. Compare formal and informal uses of English. <p>L.2.5 Demonstrate understanding of word relationships and nuances in word meanings.</p> <ul style="list-style-type: none"> a. Identify real life connections between words and their use.

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<p>CRITICAL AREA: Building fluency with addition and subtraction</p> <p>Represent and solve problems involving addition and subtraction. 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</p> <p>Use place value understanding and properties of operations to add and subtract 2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.</p> <p>2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.</p> <p>2.NBT.7 Add and subtract within 1000, using concrete</p>	<p>Essential Question What is the importance of holding place value?</p> <p>Scaffold Questions How do we put numbers together? How do we take numbers apart?</p>	<p>Curriculum Crafter MY Math-Chapters 5-7</p> <p>Before: Observation</p> <p>Addition/subtraction timed pretest</p> <p>During: Slate board response-do an add/subtraction problem</p> <p>Observation</p> <p>Quiz-add/subtraction problems, tell place value</p> <p>Around the world – addition/subtraction activity</p> <p>Think-Pair-Share</p> <p>Daily word problem-simple add/subtraction problem</p> <p>After: White board response-do an add/subtraction</p>	<p>2015-16: 12.11.15</p> <p>Pre-test 11/14/14</p> <p>Post-Test- 1/29/15</p>	<p>addend all together borrow carrying charts compare difference digit fewer how many less? how many more? hundreds model number ones operation place value problem regrouping solution sum symbols take apart tens thousands word problem</p>	<p>Literacy Connections: Pallotta, Jerry. <i>Reese's Pieces Count by Fives</i>. Cartwheel. ISBN 0439135206. 2000.</p> <p>Pallotta, Jerry. <i>Reese's Pieces Count by Tens</i>. Scholastic Inc. ISBN 0439639905. 2004.</p> <p>Milbourne, Anna. <i>How Big is a Million?</i> Usborne Books. ISBN 0794519245. 2008.</p> <p>Murphy, Stuart. <i>Shark Swimathon</i>. Harper Collins. ISBN 0-06-446735-X. 2001.</p> <p>Murphy, Stuart. <i>Earth Day-Hooray!</i> Harper Collins. ISBN 0-06-000129-1. 2004.</p> <p>Instructional Resources http://learningbox.com/Base10/BaseTen.html</p> <p>http://www.funbrain.com/cgi-bin/osa.cgi?A1=s&A2=0&INSTRUCTS=1</p> <p>http://www.funbrain.com/cgi-bin/nl.cgi?A1=s&A2=1&INSTRUCTS=1</p> <p>http://illuminations.nctm.org/ActivityDetail.aspx?ID=75</p> <p>Math Lessons: www.aaastudy.com</p> <p>Math Games: www.gamequarium.com www.arcademicskillbuilders.com www.mathisfun.com www.aplusmath.com</p>

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<p>models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.</p> <p>2.NBT.8 Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.</p> <p>2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.</p>		<p>problem</p> <p>“Be the teacher” – explain add/subtract problem to the class and responses from class if right or wrong.</p> <p>Quiz</p> <p>Math journal –keep vocabulary words in it</p>			<p>Calculator and Me: Addition - In pairs, students each draw a card from a deck of playing cards (1-10). One student uses a calculator and the other uses addition strategies to race and find the sum of the numbers on the cards.</p> <p>Subtraction Compare-It - Use the cards or dice to generate subtraction problems. The player with the largest difference wins the round.</p> <p>Placing Digits-Students use a deck of cards (0-9). Each player draws two cards and arranges them to make the largest possible number. The player with the largest number takes all four cards.</p> <p>Math Software, Worksheets, and Games:</p> <ul style="list-style-type: none"> - www.superkids.com - http://www.ictgames.com/sharknumbers.html - http://www.quia.com/mc/279741.html - http://www.ictgames.com/sharkNumbers/sharkNumbers_v5.html - http://illuminations.nctm.org/LessonDetail.aspx?ID=L876 - http://www.ixl.com/math/grade-2/value-of-underlined-digit-up-to-hundreds - http://www.ictgames.com/abacusInteger.html - http://www.learningbox.com/Base10/BaseTen.html - http://www.ictgames.com/LIFEGUARDS.html - http://www.ictgames.com/100huntplus10.html - http://www.ictgames.com/100hunt2.html - http://www.ictgames.com/arrowCards_revise_d_v5.html

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					<p>Manipulatives: Base ten blocks Fact Triangles Number lines Hundreds chart Flash cards Counters</p> <p>Math Software, Worksheets, and Games: www.superkids.com</p> <p>Base ten blocks Connecting cubes Money counters Place value charts</p>

**Mathematics Pacing Guide
Second Grade**

**Time Frame: 5 Weeks – January – Mid February
Unit 3: Number and Operations in Base Ten**

Standards for Mathematical Practice	Literacy Standards
<p>1. Make sense of problems and persevere in solving them</p> <p>2. Reason abstractly and quantitatively</p> <p>4. Model with mathematics</p> <p>5. Use appropriate tools strategically</p> <p>6. Attend to precision</p>	<p>RI.2.1 Ask and answer such questions as <i>who, what, where, when, why and how</i> to demonstrate understanding of key details in a text.</p> <p>RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.</p> <p>RI.2.4 Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</p> <p>RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, Icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media</p> <p>SL.2.3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts and feelings.</p> <p>L.2.3 Use knowledge of language and its conventions when writing, speaking, reading or listening.</p> <p>a. Compare formal and informal uses of English.</p> <p>L.2.5 Demonstrate understanding of word relationships and nuances in word meanings.</p> <p>a. Identify real life connections between words and their use.</p>

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<p>Work with equal groups of objects to gain foundations for multiplication.</p> <p>2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.</p> <p>2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.</p>	<p>Essential Question How do we add to or take away groups of numbers?</p> <p>Scaffold Questions In what ways can numbers be composed and decomposed?</p> <p>How can decomposing numbers help us with mental math?</p> <p>How are place value patterns repeated in numbers?</p> <p>What is the relationship between addition and multiplication?</p>	<p>Curriculum Crafter MY Math-Chapters 1-4</p> <p>Before: Fill in a blank multiplication table</p> <p>Make arrays of fact families</p> <p>During: Multiplication flash cards</p> <p>White board response</p> <p>Timed multiplication test</p> <p>Fill in a blank multiplication table</p> <p>Explain problems using base 10 blocks</p> <p>After: Multiplication flash cards</p> <p>Division flash cards</p> <p>Timed fill in a blank multiplication table</p> <p>Timed multiplication/division test</p>	<p>2015-16: 2.8.16</p> <p>Pre-test 2/6/15</p> <p>Post-test- 3/10/15</p>	<p>addends columns group equal equation multiplication multiply objects product relationship array rows set strategy symbol</p>	<p>Literacy Connections: Anno, Mitsumasa. <i>Anno's Magic Seeds</i>. Puffin. ISBN 0698116186. 1999.</p> <p>Brown, Ruth. <i>Ten Seeds</i>. Andersen Press. ISBN 184939251X. 2010.</p> <p>Demi. <i>One Grain of Rice: A Mathematical Folktale</i>. Scholastic Press. ISBN 059093998X. 1997.</p> <p>Friedman, Aileen. <i>The King's Commissioners</i>. Heinemann. ISBN 0590489895. 1994.</p> <p>Giganti, Paul. <i>Each Orange Had 8 Slices: A Counting Book</i>. Greenwillow Books. ISBN 068813985X. 1999.</p> <p>Helakoski, Leslie. <i>The Smushy Bus</i>. Millbrook Press. ISBN 0761319174. 2002.</p> <p>Hong, Lily Toy. <i>Two of Everything: A Chinese Folktale</i>. Albert Whitman & Company. ISBN 0807581577. 1993.</p> <p>Lewis, J. Patrick. <i>Arithme-Tickle: An Even Number of Odd Riddle-Rhymes</i>. Sandpiper. ISBN 0152058486. 2007.</p> <p>Long, Lynette. <i>Dealing With Addition</i>. Charlesbridge Publishing. ISBN 0881062707. 1998.</p> <p>Long, Lynette. <i>Domino Addition</i>. Charlesbridge Publishing. ISBN 0881068772. 1996.</p>

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		<p>Unit test -use objects to represent a multiplication problem, determine even and odd numbers, multiply and divide numbers</p>			<p>Merriam, Eve. <i>12 Ways to Get to 11</i>. Aladdin. ISBN 0689808925. 1996.</p> <p>Nagda, Ann Whitehead. <i>Cheetah Math: Learning about Division from Baby Cheetahs</i>. Henry Holt & Co. ISBN 080507645X. 2007.</p> <p>Reiser, Lynn. <i>Hardworking Puppies</i>. Harcourt Children's Books. ISBN 0152054049. 2006.</p> <p>Math Games: www.akidsmath.com www.mathisfun.com www.funbrain.com www.xpmath.com</p> <p>MAISA curriculum unit and resources for adding and subtracting whole numbers: http://gomaisa-public.rubiconatlas.org/Atlas/Browse/UnitMapView/Default?UnitID=16400&YearID=2013&SchoolID=19&TimePeriodID=14&SourceSiteID=&CurriculumMapID=802&</p> <p>MAISA curriculum unit and resources for whole number operations: http://gomaisa-public.rubiconatlas.org/Atlas/Browse/UnitMapView/Default?UnitID=16403&YearID=2013&SchoolID=19&TimePeriodID=14&SourceSiteID=&CurriculumMapID=802&</p> <p>Manipulatives: Counters Base 10 blocks Graph paper</p>

**Mathematics Pacing Guide
Second Grade**

Time Frame: 7 Weeks – Mid February - March
Unit 4: Measurement and Data

Standards for Mathematical Practice	Literacy Standards
<p>3. Construct viable arguments and critique the reasoning of others</p> <p>5. Use appropriate tools strategically</p> <p>6. Attend to precision</p> <p>7. Look for and make use of structure</p>	<p>RI.2.1 Ask and answer such questions as <i>who, what, where, when, why and how</i> to demonstrate understanding of key details in a text.</p> <p>RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.</p> <p>RI.2.4 Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</p> <p>RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, Icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media</p> <p>SL.2.3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts and feelings.</p> <p>L.2.3 Use knowledge of language and its conventions when writing, speaking, reading or listening word meanings.</p> <p>a. Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy)</p> <p>b. Distinguish shades of meaning among closely related verbs and adjectives.</p>

Standards for Mathematical Practice	Literacy Standards
	<p>W.2.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.</p> <p>W.2.5 With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.</p> <p>W.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.</p>

Common Core	Essential Questions	Assessments	Assessment Date	Vocabulary	Resources
<p>CRITICAL AREA: Using standard units of measure</p> <p>Measure and estimate lengths in standard units. 2.MD.1. Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p>2.MD.2. Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.</p> <p>2MD.3. Estimate lengths using units of inches, feet, centimeters, and meters.</p> <p>2MD.4. Measure to determine how much longer one object is than</p>	<p>Essential Question What is measurement?</p> <p>Scaffold Question What can we measure?</p> <p>Do measurements need to be exact?</p> <p>What is time?</p> <p>How can we measure time?</p> <p>How and what measurements to we compare?</p> <p>How is the space between the lines on a ruler the measure of length?</p> <p>How does the size of the unit affect the length</p>	<p>Curriculum Crafter MY Math-Chapters 8-11</p> <p>Before: Observation</p> <p>Brainstorming</p> <p>Verbally tell time</p> <p>Think/ Pair/ Share: measure items around the room, together</p> <p>During: Response cards</p> <p>Gallery Walk: write time shown on clock, write dollar amounts</p> <p>Daily Measuring problem</p>	<p>2015-16: 3.25.16</p> <p>Pre-Test 3/11/15</p> <p>Post Test 4/28/15</p>	<p>add analog centimeters cent sign coins compare days decimal point difference digital dimes dollars dollar sign foot half past hour hand hours inches length longer measure meter stick minute hand minutes</p>	<p>Literacy Connections: Jenkins, Steve. <i>Actual Size</i>. Houghton Mifflin Books for Children. ISBN 0618375945. 2004.</p> <p>Keats, Ezra Jack. <i>The Snowy Day</i>. Viking Juvenile. ISBN 067001270X. 1962.</p> <p>Lionni, Leo. <i>Inch by Inch</i>. Knopf Books for Young Readers. ISBN 0375857648. 2010.</p> <p>“One Inch Tall” poem by Shel Silverstein</p> <p>Pinczes, Elinor J. <i>Inchworm and a Half</i>. Sandpiper. ISBN 0618311017. 2003.</p> <p>Swartz, David. <i>Millions to Measure</i>. HarperCollins. ISBN 0060848065. 2006.</p>

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<p>another, expressing the length difference in terms of a standard length unit.</p> <p>Relate addition and subtraction to length. 2MD.5. Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.</p> <p>2.MD.6. Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.</p> <p>Work with time and money. 2.MD.7. Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.</p> <p>2MD.8. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. Example: If you have 2 dimes and 3 pennies, how many cents do you have?</p>	<p>measure of an object?</p> <p>How are units of measurement related?</p> <p>How is estimation helpful in measurement?</p>	<p>Tell time using a hand clock and digital</p> <p>Observation</p> <p>After: Test-Write times show on clocks, count money, solve simple money word problems</p> <p>White Board Response- write time shown on clock, write dollar amounts- Add and Subtract</p> <p>Gallery walk- story problems adding and subtracting real time lines</p> <p>Observation</p> <p>Chapter Test from Book</p>		<p>nickels number line quarter part quarters quarter till ruler seconds shorter subtract sum tape yards units unknown number whole number yard stick</p>	<p>Math Software, Worksheets, and Games: Math Cats Convert Numbers- this site provides students and teachers with a good resource for measurement conversion.</p> <p>Temperature Game- this game, provided by NASA’s website, helps students learn temperature in degrees Celsius and Fahrenheit.</p> <p>Sleuths on the Loose-found on the PBS Kids website, Sleuths on the Loose is an activity that develops linear measurement skills.</p> <p>Learning Math- this website has ten sessions that allow students to explore measurement in depth.</p> <p>Math Games: www.superkids.com www.akidsmath.com www.mathisfun.com www.funbrain.com www.xpmath.com</p> <p>MAISA curriculum unit and resources for estimating and measuring length: http://gomaisa-public.rubiconatlas.org/Atlas/Browse/UnitMap/View/Default?UnitID=16404&YearID=2013&Scho</p>

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					<p data-bbox="1608 217 2011 313">olID=19&TimePeriodID=14&SourceSiteID=&CurriculumMapID=802&</p> <p data-bbox="1608 354 2011 480">MAISA curriculum unit and resources for using unites of \$, cents, hours, minutes, and shapes:</p> <p data-bbox="1608 488 2011 716">http://gomaisa-public.rubiconatlas.org/Atlas/Browse/UnitMap/View/Default?UnitID=16405&YearID=2013&SchoolID=19&TimePeriodID=14&SourceSiteID=&CurriculumMapID=802&</p> <p data-bbox="1608 756 2011 945">Manipulatives: Calculators Individual clocks for students Rulers, Graph paper, Coins Computers, Thermometers Teacher clock</p>

**Mathematics Pacing Guide
Second Grade**

**Time Frame: 3 Weeks – April
Unit 5: Measurement and Data**

Standards for Mathematical Practice	Literacy Standards
<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them 2. Reason abstractly and quantitatively 3. Construct viable arguments and critique the reasoning of others 7. Look for and make use of structure 8. Look for and express regularity in repeated reasoning 	<p>RI.2.1 Ask and answer such questions as <i>who, what, where, when, why and how</i> to demonstrate understanding of key details in a text.</p> <p>RI.2.3 Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.</p> <p>RI.2.4 Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</p> <p>RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, Icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media</p> <p>SL.2.3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts and feelings.</p> <p>L.2.3 Use knowledge of language and its conventions when writing, speaking, reading or listening word meanings.</p> <ol style="list-style-type: none"> a. Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy) b. Distinguish shades of meaning among closely related verbs and adjectives. <p>W.2.2 Write informative/explanatory texts in which they introduce a topic, use</p>

Standards for Mathematical Practice	Literacy Standards
	<p>facts and definitions to develop points, and provide a concluding statement or section.</p> <p>W.2.5 With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.</p> <p>W.2.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.</p>

Common Core	Essential Questions	Assessments	Assessment Date	Vocabulary	Resources
<p>Represent and interpret data.</p> <p>2.MD.1 Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.</p> <p>2.MD.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.</p> <p>2.MD.10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put together, take-apart, and compare problems using information presented in a bar graph.</p>	<p><u>Essential Question</u> How does data help us in our lives?</p> <p><u>Scaffold Question</u> Is there one way to collect data?</p> <p>What is a graph?</p> <p>How can we group items?</p> <p>How can we measure items?</p> <p>Where do questions for collecting data come from?</p> <p>How can I collect the information I need to answer the questions?</p> <p>How do graphs and charts help us answer</p>	<p>Curriculum Crafter MY Math-Chapters 8-11</p> <p><u>Before:</u> Observation</p> <p>KWL – write a series of numbers on board and have students make sense of them</p> <p><u>During:</u> Measure several objects and diagram</p> <p>Observation</p> <p>Exit slips</p> <p>Estimate length of objects</p> <p>Tell the difference of length in two objects</p>	<p>2015-16: 4.22.16</p> <p>Pre-test 4/29/15</p> <p>Post-test 5/12/15</p>	<p>axis bar graph data diagram horizontal interval key labels line plot picture graph scale title vertical</p>	<p>Literacy Hurst, Carol Otis. <i>Rocks in his Head</i>. Greenwillow. ISBN 0060294043. 2001.</p> <p>Murphy, Stewart J. <i>Lemonade Sale</i>. HarperCollins. ISBN 0064467155. 1997.</p> <p>Murphy, Stewart J. <i>The Sundae Scoop</i>. HarperCollins. ISBN 0064462501. 2002.</p> <p>Murphy, Stewart J. <i>Probably Pistachio</i>. HarperCollins. ISBN 0064467341. 2000.</p> <p>Nadga, Ann Whitehead. <i>Tiger Math: Learning to Graph from a Baby Tiger</i>. Square Fish. ISBN 080507161X. 2002.</p> <p>Interactive Bar Graph: http://www.amblesideprimary.com/ambleweb/mentalmaths/grapher.html</p>

Common Core	Essential Questions	Assessments	Assessment Date	Vocabulary	Resources
	<p>questions?</p> <p>How can I organize data I collect?</p> <p>How can I display data I get from a data collection?</p> <p>What questions can I ask and answer about the data displayed in my chart or graph?</p>	<p>After: Measure several objects</p> <p>Gallery walk- stations of measurement</p> <p>Report: Create a visual graph/ poster using real life objects for a presentation (details depend on class and teacher)</p>			<p>Math Games: www.mathisfun.com</p> <p>http://www.gamequarium.com/d/ata2.html</p> <p>MAISA curriculum unit and resources for sorting, classifying, and representing data: http://gomaisa-public.rubiconatlas.org/Atlas/Browse/UnitMap/View/Default?UnitID=16402&YearID=2013&SchoolID=19&TimePeriodID=14&SourceSiteID=&CurriculumMapID=802&</p> <p>Manipulatives: Ruler Yard stick Meter stick Tape measure Objects to measure Graph paper Construction Paper to graph Conversion Tables</p>

**Mathematics Pacing Guide
Second Grade**

Time Frame: 7 Weeks – May - June
Unit 6: Geometry

Standards for Mathematical Practice	Literacy Standards
<p>1. Make sense of problems and persevere in solving them</p> <p>3. Construct viable arguments and critique the reasoning of others</p> <p>5. Use appropriate tools strategically</p> <p>7. Look for and make use of structure</p> <p>8. Look for and express regularity in repeated reasoning</p>	<p>RI.2.1 Ask and answer such questions as <i>who, what, where, when, why and how</i> to demonstrate understanding of key details in a text.</p> <p>RI.2.4 Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i>.</p> <p>RI.2.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, Icons) to locate key facts or information in a text efficiently.</p> <p>RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.</p> <p>SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media</p> <p>SL.2.3 Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.</p> <p>SL.2.5 Create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts and feelings.</p> <p>L.2.3 Use knowledge of language and its conventions when writing, speaking, reading or listening word meanings. a. Compare formal and informal uses of English.</p> <p>L.2.5 Demonstrate understanding of word relationships and nuances in word meanings. a. Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy) b. Distinguish shades of meaning among closely related verbs and adjectives.</p>

Common Core	Essential Questions	Assessments	Assessment date	Vocabulary	Resources
<p>CRITICAL AREA: Describing and analyzing two-dimensional shapes</p> <p>Reason with shapes and their attributes 2.G.1 Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.</p> <p>2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.</p> <p>2.G.3 Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.</p>	<p>Essential Question What classifies a shape?</p> <p>Scaffolding Questions How do we break down objects?</p> <p>What are shapes?</p> <p>How does knowing about 2-dimensional shapes help you understand 3-dimensional shapes?</p> <p>How are 2 dimensional shapes and 3-dimensional shapes alike?</p> <p>How are 2-dimensional shapes and 3-dimensional shapes different?</p> <p>Must equal</p>	<p>Curriculum Crafter MY Math-Chapter 12</p> <p>Before: KWL of names and knowledge of shapes</p> <p>Find Shapes in the room</p> <p>Pretest</p> <p>During: Quiz</p> <p>Name 3-D shapes from objects kit (Every day)</p> <p>Independent worksheets: at the end of every lesson</p> <p>Homework</p> <p>Drawings of geometric shapes</p> <p>After: Unit Test-draw, name, recognize shapes, tell attributes</p> <p>Observation/ Quiz: find shapes and / or objects around the room and diagram on paper: name and draw</p>	<p>2015-16: 6.3.16</p> <p>Pre-test 5/13/15</p> <p>Post test 6/10/15</p>	<p>2-dimensional shapes 3-dimensional shapes attributes of shapes equal shares fourths halves nets partitioning shapes relationship between 2-D and 3-D figures thirds whole</p>	<p>Literacy Greene, Rhonda. <i>When A Line Bends...A Shape Begins</i>. Sandpiper. ISBN 0618152415. 2001.</p> <p>Hoban, Tana. <i>Shapes, Shapes, Shapes</i>. Greenwillow. ISBN 0688147402. 1996.</p> <p>Murphy, Stuart J. <i>Captain Invincible and the Space Shapes</i>. HarperCollins. ISBN 0064467317. 2001.</p> <p>Neuschwander, Cindy. <i>Sir Cumference and the Great Knight of Angleland</i>. Charlesbridge Pub Inc. ISBN 157091169X. 2001.</p> <p>Paul, Ann Whitford. <i>Eight Hands Round: A Patchwork Alphabet</i>. HarperCollins. ISBN 0064434648. 1996.</p> <p>Math Lessons and Games: www.mathisfun.com/geometry www.learninggamesforkids.com www.softschools.com/grades/2nd_grade/math/</p> <p>Geometry Rap: http://www.youtube.com/watch?v=15HvFEANERA</p> <p>Worksheets: http://www.math-salamanders.com/second-grade-geometry.html</p> <p>MAISA curriculum unit and resources for geometric shapes: http://gomaisa-public.rubiconatlas.org/Atlas/Browse/UnitMap/</p>

Common Core	Essential Questions	Assessments	Assessment date	Vocabulary	Resources
	<p>shares of identical wholes have the same shape?</p> <p>Do all shapes have the same inside?</p>	<p>Partition objects using lines with Geoboards</p> <p>Quiz- compare/contrast shapes: sizes & sides</p> <p>Report: Story problems – write life problems (using literacy context) about shapes</p>			<p>View/Default?UnitID=16401&YearID=2013&SchoolID=19&TimePeriodID=14&SourceSiteID=&CurriculumMapID=802&</p> <p>Variety of 2-D shapes Variety of 3-D shapes Graph paper Geo boards- with rubber bands Protractor Shape stencil Ruler Compass</p>