

Hillsborough Township Public Schools
Mathematics Department
Grade 2 Curriculum Map

Essential Questions	Enduring Understandings	Domain	Cluster	Standard	Learning Targets	Assessment Formative and Summative	Inter-disciplinary Connections	21 st Century Connections
District Beginning of Year Assessment								
Pacing – 1 Day								
Unit 1 – Establishing Routines						Written Assessment		
Pacing – 22 days						Open Response Question		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten SMP 5 – Use appropriate tools strategically.	A. Understand Place Value	2.NBT.A.2 - Count within 1000; skip-count by 5s, 10s and 100s.	Write and order numbers.	Complete the number sequences: 42, 43, __, __, ____ and 310, 311, __, __, ____		CRP11. - Use technology to enhance productivity. CRP12. - Work productively in teams while using cultural global competence.
					Count on using base 10 blocks.	Identify the value of a base 10 block structure.		
					Use a calculator to skip counting.	Count by 2's starting at the number 8 using a calculator.		
How can measurements be used to solve problems?	Everyday objects have a variety of attributes, each of which can be measured in many ways.	Measurement and Data SMP 5 - Use appropriate tools strategically. SMP 7 – Look for and make use of structure.	C. Work with time and money.	2.MD.C.8 - Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i>	Calculate the value of coin combinations.	Write the value of these coin combinations: 2 dimes, 1 quarter, 2 pennies; 5 nickels, 5 pennies, 3 dimes.	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.	
How do operations affect numbers?	Computational fluency includes	Operations and Algebraic Thinking	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using	Solve addition problems.	Write and answer: 6+8 5+3		

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	understanding the meaning and the appropriate use of numerical operations.	SMP 3 – Construct viable arguments and critique the reasoning of others.		mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Find number facts for 10.	Solve the following problems. 6+4 3+7 2+8		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten SMP 7 – Look for and make use of structure.	A. Understand Place Value	2. NBT.A.3 - Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	Complete and describe a number pattern .	Create part of a number-grid scroll that counts from 1 to 1000.		CRP4. - Communicate clearly and effectively and with reason.
				2.NBT.A.2 - Count within 1000; skip-count by 5s, 10s and 100s.	Use place-value skills to fill in missing numbers on a number grid.	Given sections of a number grid, fill in the missing numbers.		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Operations and Algebraic Thinking SMP 3 – Construct viable arguments and critique the reasoning of others.	C. Work with equal groups of objects to gain foundations for multiplication.	2.OA.C.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.	Identify odd and even numbers.	Tell whether each number is odd or even: 23, 14, 30, and 77.		
How do mathematical ideas interconnect and build on one another to produce a	Numeric fluency includes both the understanding of and the ability to	Operations and Algebraic Thinking SMP 2 – Reason abstractly and	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-	Use number models to write equivalent names for numbers.	Give ten equivalent names for 13.		CRP2. - Apply appropriate academic and technical skills.

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coherent whole?	appropriately use numbers.	quantitatively		digit numbers.				
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Numbers and Operations in Base Ten SMP 2 – Reason abstractly and quantitatively SMP 6 – Attend to precision.	A. Understand Place Value	2.NBT.A.4 - Compare two three-digit numbers based on meanings of the hundreds, tens and ones digits, using $>$, $=$, $<$ symbols to record the results of comparisons.	Compare numbers	Compare using $<$, $>$, $=$: 15 ___ 25, 40 ___ 34 20 ___ 20		
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 5 – Use appropriate tools strategically.	A. Reason with shapes and their attributes.	2.G.A.2 - Partition a rectangle into rows and columns of the same-size squares and count to find the total number of them.	Use shapes to explore area.	Identify and explain appropriate shapes to tile a rectangle.	W.2.2 - Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.	CRP12. - Work productively in teams while using cultural global competence.
Unit 2 – Addition and Subtraction Fact Strategies Pacing – 21 days						Written Assessment Open Response Question		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them.	Operations and Algebraic Thinking SMP 1 – Make sense of problems and persevere	A. 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,	Create, represent, and solve addition number stories.	Find the total number of objects given in two parts. Create number stories.	SL.2.6. - Produce complete sentences when appropriate to task and situation in order to provide requested detail or	CRP4. - Communicate clearly and effectively and with reason. CRP12. - Work productively in

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		in solving them. SMP 2 – Reason abstractly and quantitatively.		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. ¹			clarification.	teams while using cultural global competence.
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 3 – Construct viable arguments and critique the reasoning of others. SMP 7 – Look for and make use of structure.	B. Add and subtract within 20.	2.OA.B. 2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Use and identify patterns and strategies for learning basic addition facts.	Solve the facts 6 + 6 7 + 3 4 + 6 6 + 5		
					Know doubles, near doubles, compliments of 10 and turn around facts.	Solve the facts. 8 + 8 7 + 3 3 + 7 9 + 1 1 + 9		
					Develop addition and subtraction fact fluency.	Solve the facts. 9 - 4 6 - 2 3 + 5 10 - 8		
How do mathematical ideas interconnect and build on one another to produce a	Numeric fluency includes both the understanding of and the ability to	Number and Operations in Base Ten SMP 2 – Reason abstractly and	A. Understand Place Value	2.NBT.A.2 - Count within 1000; skip-count by 5s, 10s and 100s.	Group by tens.	Exchange 10 one dollar bills for 1 ten dollar bill, 10 ten dollar bills for 1 one hundred dollar bill.		

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coherent whole?	appropriately use numbers.	quantitatively SMP 5 – Use appropriate tools strategically.			Use tools to add.	Find $43 + 18$ using a number line.		
How do operations affect numbers? How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 2 – Reason abstractly and quantitatively .	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Practice addition and subtraction facts.	Add/subtract any of the following numbers to make four: 1, 3, 7, 11, and 14.		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten SMP 2 – Reason abstractly and quantitatively SMP 7 – Look for and make use of structure.	A. Understand Place Value Understand	2.NBT.A.3 - Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. 2.NBT.2 - Count within 1000; skip-count by 5s, 10s and 100s.	Find equivalent names for numbers. Identify and extend number patterns.	Give 10 names for the number 12 including expanded form. Complete a frame and arrow diagram with rule add 3: ____, ____, 20, ____, _____		CRP4. - Communicate clearly and effectively and with reason.
How do geometric relationships help to solve problems and/or make sense of phenomena.	Geometric relationships provide a means to make sense of a variety of phenomena.	Geometry SMP 2 – Reason abstractly and quantitatively SMP 5 – Use appropriate tools	A. Reason with shapes and their attributes.	2.G.A. 3 - Partition circles and rectangles into two, three or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , etc., and describe the whole as two halves, three thirds, four	Make geoboard shapes and designs using partitioning vocabulary (halves, fourths, divide).	Create 3 and 4 sided shapes on a geoboard. Divide them into equal parts.		

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		strategically.		fourths. Recognize that equal shares of identical wholes need not have the same shape.				
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Operations and Algebraic Thinking SMP 2 – Reason abstractly and quantitatively .	C. Work with equal groups of objects to gain foundations for multiplication.	2.OA.C.3 - Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by parigin objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	Identify odd and even numbers.	Tell whether each number is odd or even: 3, 18, 10, 7, 0. Use a picture or manipulatives to show your answer.		CRP4. - Communicate clearly and effectively and with reason. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
Unit 3 –Fact Strategies Expanded Pacing – 23 days						Written Assessment Open Response Question		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 6 – Attend to precision.	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Identify patterns and strategies for learning basic addition and subtraction facts as a means to fluency	Use mental math strategies to solve the following: 8 + 7 9 + 3 8 + 6 5 + 9 9 + 7 18 - 6 7 + 4 12 - 9		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them.	Operations and Algebraic Thinking SMP 1 – Make sense	A. Represent and solve problems involving addition and subtraction.	2.OA.A.1 – Use addition and subtraction within 100 to solve one- and two-step word problems involving	Create, represent, and solve addition number stories using various methods (ex.	Create a number story for the following number sentence. 12 – 5 = 7		

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		of problems and persevere in solving them. SMP 6 – Attend to precision.		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. ¹	comparison, change to less).			
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 4 – Model with mathematics. SMP 7 – Look for and make use of structure.	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Identify patterns and strategies for learning basic addition and subtraction facts.	Give the turn around facts for the following number sentences. $6 + 5 = 11$ $14 - 8 = 6$		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
					Develop addition and subtraction fact fluency.	Give the two addition and two subtraction number sentences for the following fact family: 7, 8, and 15.		
					Find missing numbers.	Find the missing addend for the following number sentences. $8 + \underline{\quad} = 15$ $\quad - 9 = 8$		
How do mathematical ideas interconnect and build on one another to	Numeric fluency includes both the understanding of and the	Number and Operations in Base Ten SMP 3 – Construct	A. Understand Place Value	2.NBT.A.3 - Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	Find equivalent names for numbers.	Give 10 names for the number 15.		

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produce a coherent whole?	ability to appropriately use numbers.	viable arguments and critique the reasoning of others.						
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 3 – Construct viable arguments and critique the reasoning of others.	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Identify and use patterns to solve subtraction facts.	Solve these facts counting up or counting back. 8 - 2 7 - 4 10 - 3		CRP4. - Communicate clearly and effectively and with reason.
						Solve the following subtraction facts. 8 - 0 9 - 1 57 - 0 80 - 1		
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Numbers and Operations in Base Ten SMP 3 – Construct viable arguments and critique the reasoning of others.	A. Understand Place Value.	2.NBT.A.4 - Compare two three-digit numbers based on meanings of the hundreds, tens and ones digits, using $>$, $=$, $<$ symbols to record the results of comparisons.	Compare two multi-digit numbers.	Compare using $<$, $>$, $=$: 75 ___ 57 14 ___ 40 81 ___ 81		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Numbers and Operations SMP 2 – Reason abstractly and quantitatively	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.9 - Explain why addition and subtraction strategies work, using place value and the properties of operations.	Identify and extend number patterns.	Fill in the missing numbers following the rule + 3. ___, 5 ___, ___, ___		

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How do operations affect numbers?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 7 – Look for and make use of structure.	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Use double patterns to practice facts.	Solve these facts: 9 + 9 7 + 7 5 + 5 3 + 3 6 + 6 4 + 4		
How can measurements be used to solve problems?	Measurements can be used to describe, compare, and make sense of phenomena.	Measurement and Data SMP 2 – Reason abstractly and quantitatively SMP 5 – Use appropriate tools.	B. Relate addition and subtraction to length.	2.MD.B.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 sums and differences within 100 on a number line diagram.	Use a number line to find the difference between two numbers. Relate this distance to addition and subtraction.	Using a number line solve the following problem. 11 – 5 = ____ 13 – 6 = ____		
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 8 – Look for and express regularity in repeated reasoning.	A. Reason with shapes and their attributes.	2.G.A.2 - Partition a rectangle into rows and columns of the same-size squares and count to find the total number of them.	Use shapes to explore area.	Given rectangle, tile it with different block shapes.		
How can measurements be used to solve problems?	Everyday objects have a variety of attributes, each of which can be measured in many ways.	Measurement and Data	C. Work with time and money.	2.MD.C.8 - Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using \$ and ¢ symbols appropriately. <i>Example: If you have</i>	Show and calculate coin combinations.	Count the coins to find the total. Draw a picture. Q, D, D, N, P		CRP2. - Apply appropriate academic and technical skills.

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				<i>2 dimes and 3 pennies, how many cents do you have?</i>				
Unit 4 – Place Value and Measurement						Written Assessment		
Pacing – 19 days						Open Response Question		
How can measurements be used to solve problems?	What we measure affects how we measure it.	Measurement and Data SMP 5 – Use appropriate tools strategically.	C. Work with time and money.	2.MD.C.7 - Tell and write time from analog and digital clocks to the nearest five minutes using a.m. and p.m.	Tell time to the nearest five minutes.	Given these times on an analog clock, record the time: 5:15, 3:45, 2:30, and 12:00.		CRP2. - Apply appropriate academic and technical skills.
					Distinguish between A.M. and P.M. hours.			
How do operations affect numbers?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 7 – Look for and make use of structure.	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.	Solve and explain strategies for subtraction.	Find the difference and identify your solution strategy (think addition, count up, count back, go through ten). 17 – 9 18 – 7 7 – 5		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways.	Number and Operations in Base Ten SMP 2 – Reason abstractly and quantitatively	A. Understand Place Value.	2.NBT.A.1 - Understand that the three digits of a three-digit number represent amounts of hundreds, tens and ones. Understand the following as special cases:	Write numbers shown with base-10 blocks and model numbers with base-10 blocks.	Given 4 flats, 5 cubes and 3 longs, write the number.	SL.2.6. - Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	CRP6. - Demonstrate creativity and innovation.

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				2.NBT.A.1.a - 100 can be thought of as a bundle of ten tens - called a "hundred." 2.NBT.1.A.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).	Identify a number given base-10 blocks. Use reasoning to explain numbers in standard form.	Write 342 in expanded form as modeled by base-10 blocks. Explain why a given number of blocks equal a certain amount.		
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Numbers and Operations in Base Ten SMP 7 – Look for and make use of structure.	A. Understand Place Value.	2.NBT.A.4 - Compare two three-digit numbers based on meanings of the hundreds, tens and ones digits, using $>$, $=$, $<$ symbols to record the results of comparisons.	Compare numbers.	Compare using $<$, $>$, $=$: 250 ___ 205 41 ___ 49 201 ___ 210		CRP4. - Communicate clearly and effectively and with reason.
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Numbers and Operations in Base Ten SMP 2 – Reason abstractly and quantitatively . SMP 6 – Attend to precision.	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.7 - Add and subtract within 1000, using concrete 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-	Add and subtract two-digit numbers using base ten blocks.	Solve: What is the sum of 8 longs, 3 cubes and 4 longs, 7cubes?		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.

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				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.				
How can measurements be used to solve problems?	What we measure affects how we measure it.	Measurement and Data SMP 5 – Use appropriate tools strategically. SMP 6 – Attend to precision.	A. Measure and estimate lengths in standard units.	2.MD.A.1 - Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks meter sticks and measuring tapes.	Measure to the nearest inch and centimeter.	Measure and record the following segments to the nearest inch: 4 in. line, 7 in. line Draw a 3 in. line segment. Measure a long path to the nearest inch and centimeter.		CRP2. - Apply appropriate academic and technical skills.
How can measurements be used to solve problems?	What we measure affects how we measure it.	Measurement and Data SMP 2 – Reason abstractly and quantitatively SMP 6 – Attend to precision.	A. Measure and estimate lengths in standard units.	2.MD.A.3 - Estimate lengths using units of inches, feet, centimeters, and meters.	Estimate the length of objects.	Is your desk about 24 inches, 24 feet or 24 miles long? How do you know? Estimate and measure line segments in centimeters.		CRP2. - Apply appropriate academic and technical skills.
How can measurements be used to solve problems?	What we measure affects how we measure it.	Measurement and Data SMP 5 – Use appropriate tools strategically.	A. Measure and estimate lengths in standard units.	2.MD.A.2 - Measure the length of an object twice, using length units of different lengths for the measurements; describe how the two	Compare standard and metric units of length.	Measure the short side of their math journal in inches and centimeters. Tell why the numbers do not match.	SL.2.6. - Produce complete sentences when appropriate to task and situation in order to provide requested detail or	CRP4. - Communicate clearly and effectively and with reason

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		SMP 6 – Attend to precision.		measurements relate to the size of the unit chosen.			clarification.	
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways.	Operations and Algebraic Thinking SMP 2 – Reason abstractly and quantitatively	C. Work with equal groups of objects to gain foundations of multiplication.	2.OA.C.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.	Use arrays to model multiplication.	Given this array: XXX XXX XXX How many Xs are there? How do you know?		CRP12. - Work productively in teams while using cultural global competence.
District Mid-Year Assessment Pacing – 1 Day								
Unit 5 - Addition and Subtraction Pacing – 19 days						Written Assessment Open Response Question		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Add numbers fluently	Add the numbers below. 6 + 5 7 + 3 9 + 4		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them.	Operations and Algebraic Thinking SMP 6 – Attend to precision.	A. Represent and solve problems involving addition and subtraction.	2.OA.A.1 – Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding	Solve subtraction number stories counting back by 10’s.	Solve the following subtraction problems counting back by 10’s. 40 – 10 = 62 – 32 =	SL.2.6. - Produce complete sentences when appropriate to task and situation in order to provide requested detail or	

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				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. ¹			clarification.	
			B. Use place value understanding and properties of operations to add and subtract	2.NBT.B.8 - Mentally add 10 or 100 to a given number 100-900, and mentally subtract 10 or 100 from a given number 100-900.				
How can measurements be used to solve problems?	Everyday objects have a variety of attributes, each of which can be measured in many ways.	Measurement and Data SMP 1 – Make sense of problems and persevere in solving them. SMP 2 – Reason abstractly and quantitatively	C. Work with time and money.	2.MD.C.8 - Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i>	Calculate the value of coin combinations.	Write the value of these coin combinations: 3 quarters, 2 nickels, 4 dimes and 2 pennies. Show two ways to make 58 cents.	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topics or subject area.	CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
					Solve word problems that involve money	I bought a banana for 23 cents. I paid with 3 dimes. How much change should I receive?		
						I bought a juice box from the vending machine for 45 cents. I paid with		

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						one dollar. How much change should I receive? What coins would I need to have exact change to buy the juice box?		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten SMP 1 – Make sense of problems and persevere in solving them.	A. Understand Place Value.	2.NBT.A.2 - Count within 1000; skip-count by 5s, 10s and 100s.	Fluently count up and back from given numbers.	Count by 5’s up to 50 starting at 35. Count back by 1’s from 25 to 17.		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Identify patterns and strategies for learning basic addition and subtraction facts.	Find the missing addend for the following number sentences. 9 + ____ = 14 ____ - 6 = 12		
					Develop addition and subtraction fact fluency.	Solve these facts. 7 + 4 3 + 9 11 + 2 19 - 6 17 - 6		
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical	Numbers and Operations SMP 2 – Reason abstractly and quantitatively	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.7 - Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the	Find the difference between two, two-digit numbers.	Use a number grid to find the difference between the following numbers. 87 and 52 45 and 23	W.2.2 - Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to	CRP4. - Communicate clearly and effectively and with reason.

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	operations.	SMP 3 – Construct viable arguments and critique the reasoning of others.		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. 2.NBT.B. 9 - Explain why addition and subtraction strategies work, using place value and the properties of operations.		71 and 17 Explain how you arrived at your answer.	develop points, and provide a conclusion.	
How can measurements be used to solve problems?	Measurements can be used to describe, compare, and make sense of phenomena.	Measurement and Data SMP 2 – Reason abstractly and quantitatively	C. Work with time and money.	2.MD.C.7 - Tell and write time from analog and digital clocks to the nearest five minutes using a.m. and p.m.	Read the time and match it to the appropriate digital notation.	Show analog and digital times: 4:30, 8:45, 7:15 and have students match to the appropriate analog and digital times.		CRP4. - Communicate clearly and effectively and with reason.
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 7 – Look for and make use of structure.	A. Reason with shapes and their attributes.	2.G.A.1 - Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal	Draw and name 2-dimensional shapes.	Draw and label three points, A, B, and C. Connect the points in order using a straight edge. Name the shape. Tell how you know what the	1.3.5.D.1 - Work individually and collaboratively to create two- and three-dimensional works of art that make cohesive	

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				faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.		shape is.	visual statements and that employ the elements of art and principles of design.	
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways.	Operations and Algebraic Thinking SMP 2 – Reason abstractly and quantitatively	C. Work with equal groups of objects to gain foundations of multiplication.	2.OA.C.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.	Use arrays to model multiplication.	Given this array: XXX XXX XXX XXX How many Xs are there? How do you know?		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them.	Operations and Algebraic Thinking SMP 1 – Make sense of problems and persevere in solving them. SMP 2 – Reason abstractly and quantitatively SMP 4 – Model with mathematics.	A. Represent and solve problems involving addition and subtraction.	2.OA.A.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. ¹	Solve change-to-more number stories.	Solve, show your work? A fish weighing 48 pounds swallowed a fish weighing 5 pounds. How much does the fish weigh now? Joe had 27 baseball cards. Sue gave him some more baseball cards. Now he has 32 baseball cards. How many cards did Sue give Joe?	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.	CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.

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What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Numbers and Operations SMP 1 – Make sense of problems and persevere in solving them. SMP 2 – Reason abstractly and quantitatively	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.5 - Fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.	Solve parts and total situations.	Solve: Part: 25, Part 45, What is the total?		
					Solve addition number stories using an open number line.	Use the open number line to solve: If Joe had 25 bricks and Mary had 35 bricks, how many bricks did they have all together?		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	The magnitude of numbers affects the outcome of operations on them.	Operations and Algebraic Thinking SMP 1 – Make sense of problems and persevere in solving them. SMP 4 – model with mathematics. SMP 7 – Look for and make use of structure.	A. Represent and solve problems involving addition and subtraction.	2.OA.A.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. ¹	Read, show temperatures and solve temperature change problems.	Shown these temperatures on a thermometer, record the temperature: 42 degrees Fahrenheit and 82 degrees Fahrenheit. If the temperature is 52°F at 8 AM and 64°F at 10 AM, how many degrees did the temperature rise?		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
How can measurements be used to solve problems?	Everyday objects have a variety of attributes, each of which can be	Measurement and Data SMP 1 – Make sense	C. Work with money.	2.MD.C.C.8 - Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies	Find the total cost of two items.	Choose two items to purchase and show how you found the total in two ways.	SOC.6.1.4.C.10 - Explain the role of money, savings, debt and investment in	CRP12. - Work productively in teams while using cultural global

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	measured in many ways.	of problems and persevere in solving them. SMP 4 – Model with mathematics.		using \$ and ¢ symbols appropriately. <i>Example: If you have 2 dimes and 3 pennies, how many cents do you have?</i>			individuals’ lives	competence.
Unit 6 – Whole Number Operations Pacing – 18 Days						Written Assessment Open Response Question		
How can measurements be used to solve problems?	Measurements can be used to describe, compare and make sense of phenomena.	Measurement and Data SMP 1 – Make sense of problems and persevere in solving them.	B. Relate addition and subtraction to length.	2.MD.B.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.	Solve a variety of types of comparison number stories.	If Mary’s notebook is 15 inches long and Joe’s notebook is 3 inches longer than Mary’s notebook. How long is Joe’s notebook? How do you know?	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.	CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	One representation may sometimes be more helpful than another; used together, multiple representations give a fuller understanding	Operations and Algebraic Thinking SMP 1 – Make sense of problems and persevere in solving them.	A. Represent and solve problems involving addition and subtraction.	2.OA.A.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	Solve a variety of types of comparison number stories.	Solve and show your work: Beth scored 14 points. Ivy scored 8 points. How many more points did Beth score? Solve and show your work: There		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.

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	of a problem			comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ¹		are 9 lions at the zoo. Some were released back to the jungle. Now there are 2 left at the zoo. How many were released?		
How can experimental and theoretical probabilities be used to make predictions or draw conclusions?	The message conveyed by the data depends on how the data is collected, represented, and summarized.	Measurement and Data SMP 2 – Reason abstractly and quantitatively SMP 3 – Construct viable arguments and critique the reasoning of others. SMP 4 – Model with mathematics.	D. Represent and Interpret data.	2.MD.D.10 - Draw a picture graph and 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.	Create and interpret a bar graph. Draw conclusions and answer questions about the data.	Collect data about the favorite foods of children in the class using a tally chart. Use the tally chart data to create a bar graph. Create and answer questions about the data such as: Do more children like fruits and vegetables or breads and cereal? How many more?		

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What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Numbers and Operations in Base Ten SMP 3 – Construct viable arguments and critique the reasoning of others.	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.7 - Add and subtract within 1000, using concrete 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.	Estimate and find the sum of two and three digit numbers.	Estimate the following and then find the exact sum. 72 + 41 89 + 62 256 + 123 Tell how you solved each problem.		
					Represent addends with base ten blocks and combine the blocks to find the sum.	Show the sum of 247 + 146 using base ten blocks.		
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Number and Operations in Base Ten SMP 3 – Construct viable arguments and critique the reasoning of others.	B. Use place value understanding and properties of operations to add and subtract. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.9 - Explain why addition and subtraction strategies work, using place value and the properties of operations.	Justify addition strategies.	Explain how flats longs and cubes are combined to arrive at a sum. Use example below. Show the sum of 247 + 146 using base ten blocks.		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. - Work productively in teams while using cultural global competence.

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What makes a computational strategy both effective and efficient?	The magnitude of numbers affects the outcome of operations on them.	Number and Operations in Base Ten SMP 2 – Reason abstractly and quantitatively		2.NBT.B.5 - Fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.	Use and explain strategies for solving multi-digit subtraction problems.	Solve and explain how you got your answer: 59 - 23 84 - 39		CRP12. - Work productively in teams while using cultural global competence.
How do operations affect numbers?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 2 – Reason abstractly and quantitatively	C. Work with equal groups of objects to gain foundations for multiplication.	2.OA.C.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.	Find the total number of objects in an array.	Use geoboards to make arrays showing repeated addition. Example: 5 by 3 7 by 2 6 by 4		
How can measurements be used to solve problems?	What we measure affects how we measure it.	Measurement and Data SMP 5 – Use appropriate tools strategically.	A. Measure and estimate lengths in standard units.	2.MD.A.1 - Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks and measuring tapes.	Measure and compare lengths and the nearest inch.	Given 4 objects, identify which is the shortest and which is the longest.		
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 2 – Reason abstractly and quantitatively	A. Reason with shapes and their attributes	2.G.A.1 - Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons,	Construct geometric figures triangles and rectangles.	Create complex constructions using combinations of rectangles and triangles.		CRP2. - Apply appropriate academic and technical skills.

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				and cubes.				
Unit 7- Measurement and Data using Whole Number Operations Pacing-18 days						Written Assessment Open Response Question		
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Number and Operations in Base Ten SMP 3 – Construct viable arguments and critique the reasoning of others. SMP 7 – Look for and make use of structure.	B. Use place value understanding and properties of operations to add and subtract.	2.NBT. B.5 - Fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.	Find the compliments of 10.	What number added to 4 gives you 10? What number added to 23 gives you 30? What number added to 48 gives you 50?		CRP4. - Communicate clearly and effectively and with reason.
				2.NBT.B.9 - Explain why addition and subtraction strategies work, using place value and the properties of operations.	Mentally finding sums and differences between numbers.	Given a starting number of 13, show how to reach the number 50 by adding and subtracting.		
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Number and Operations in Base Ten SMP 1 – Make sense of problems and persevere insolving them. SMP 7 – Look for and make use of structure.		2.NBT.B.6 - Add up to four two-digit numbers using strategies based on place value and properties of operations. 2.NBT.B.9 - Explain why addition and subtraction strategies work, using place value and the properties of operations.	Use the associative property of addition to add multiple numbers. Work toward finding the sums mentally.	Find the sum and explain how you figured your answer. 13 + 22 + 7 4 + 31 + 5 4 + 9 + 16 + 11		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them. CRP12. - Work productively in teams while using cultural global competence.

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How can experimental and theoretical probabilities be used to make predictions or draw conclusions?	The message conveyed by the data depends on how the data is collected, represented, and summarized.	Measurement and Data SMP 1 – Make sense of problems and persevere in solving them. SMP 4 – Model with mathematics.	D. Represent and Interpret data.	2.MD.D.10 - Draw a picture graph and 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.	Given data create a picture graph and draw conclusions about the data.	Create a picture graph of this data: Our Favorite Food 3 people chose apples, 5 people chose hamburgers, 3 people chose salad and 2 people chose shrimp. Write a number story about the graph.	W.2.2 - Write informative/explanatory texts in which they introduce a topic, use evidence-based facts and definitions to develop points, and provide a conclusion.	
How can measurements be used to solve problems?	What we measure affects how we measure it.	Measurement and Data SMP 5 – Use appropriate tools strategically. SMP 6 – Attend to precision.	A. Measure and estimate lengths in standard units.	2.MD.A.1 - Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks meter sticks and measuring tapes. 2.MD.A.3 - Estimate lengths using units of inches, feet, centimeters, and meters.	Estimate and measure classroom objects using both Metric and US Customary units.	Choose a distance in the classroom. Make an estimate in yards and measure to the nearest yard.		CRP2. - Apply appropriate academic and technical skills.
						Choose an appropriate metric unit to measure the length of your desk.		
How can measurements be used to solve problems?	The message conveyed by the data depends on how the data is collected, represented, and	Measurement and Data SMP 4 – Model with mathematics.	D. Represent and Interpret data.	2.MD.D.9 - Generate measurement data by measuring lengths of objects to the nearest whole unit, or by making repeated	Collect measurement data to create a line plot and answer questions about the data.	Measure arm spans in inches and use the information to create a line plot to represent the data.	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or	CRP2. - Apply appropriate academic and technical skills.

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	summarized.			measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.		What was the longest arm span? What was the shortest? What arm span length was in the middle?	subject area.	
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 7 – Look for and make use of structure.	A. Reason with shapes and their attributes.	2.G.A.1 - Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	Sort various shapes by their attributes.	Given a set of various shapes, sort them by attribute and explain your grouping.	SL.2.6 - Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	CRP12. - Work productively in teams while using cultural global competence.
Unit 8 – Geometry and Arrays						Written Assessment		
Pacing – 18 days						Open Response Question		
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 2 – Reason abstractly and quantitatively SMP 3 – Construct viable arguments	A. Reason with shapes and their attributes.	2.G.A.1 - Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons,	Identify and describe shapes by their attributes.	Use the vocabulary words <i>sides</i> , <i>angles</i> , <i>vertices</i> and <i>parallel sides</i> to describe various shapes. Match a shape card with an appropriate attribute. Build and draw 3 sided, 5 sided and 6 sided polygons.		CRP4. - Communicate clearly and effectively and with reason.

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How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	and critique the reasoning of others. SMP 7 – Look for and make use of structure.		and cubes.	Compare triangles, pentagons and hexagons.	Build and draw 3 sided, 5 sided and 6 sided polygons, describe similarities and differences	SL.2.1 - Participate in collaborative conversations with diverse partners about <i>grade 2 topics and texts</i> with peers and adults in small and larger groups.	CRP4. - Communicate clearly and effectively and with reason. CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
					Explore the attributes of quadrilaterals.	Plan to build 2 quadrilateral dog pens. One with 4 right angles and other with only 2.		
					Discuss and compare attributes of 3dimensional shapes.	Use trapezoids to build 3 sided, 6 sided and 4 sided shapes. Identify everyday objects that are cubes, rectangular prisms and cylinder.		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Develop addition and subtraction fact fluency.	Solve the following subtraction facts. 12 - 3 8 - 6 14 - 7 15 - 9		
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Numbers and Operations in Base Ten SMP 7 – Look for and make use of structure.	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.7 - Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between	Estimate and find the sum of two and three digit numbers.	Estimate the following and then find the exact sum. 65 + 79 = 296 + 373 = 146 + 459 = Tell how you solved		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.

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				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.		each problem.		
How can measurements be used to solve problems?	The message conveyed by the data depends on how the data is collected, represented, and summarized.	Measurement and Data SMP 2 – Reason abstractly and quantitatively SMP 6 – Attend to precision.	D. Represent and Interpret data.	2.MD.D.9 - Generate measurement data by measuring lengths of 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.	Collect measurement data to create a line plot and answer questions about the data.	Create a class line plot.	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.	CRP2. - Apply appropriate academic and technical skills.
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways.	Number and Operations in Base Ten. SMP 2 – Reason abstractly and quantitatively	A. Understand Place Value.	2.NBT.A.1 - Understand that the three digits of a three-digit number represent amounts of hundreds, tens and ones. Understand the following as special cases:	Name 3 digit numbers.	Write a number with 4 hundreds, 3 tens and 2 ones.		

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				2.NBT.A.1.a - 100 can be thought of as a bundle of ten tens - called a "hundred."				
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 3 – Construct viable arguments and critique the reasoning of others.	A. Reason with shapes and their attributes.	2.G.A.2 - Partition a rectangle into rows and columns of the same-size squares and count to find the total number of them.	Use tools to partition rectangles.	Partition a rectangle into same size squares. Identify the number of rows and squares in a set of rectangles. How many rows? How many squares in each row? How many squares in all?		
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Numbers and Operations SMP 2 – Reason abstractly and quantitatively	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.7-Add and subtract within 1000, using concrete 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	Find the difference between two two digit numbers.	Use a number grid to find the difference between the following numbers. 34 and 79 12 and 58 84 and 48		

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				necessary to compose or decompose tens or hundreds.				
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways.	Operations and Algebraic Thinking SMP 2 – Reason abstractly and quantitatively SMP 4 – Model with mathematics.	C. Work with equal groups of objects to gain foundations of multiplication.	2.OA.C.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.	Use arrays to model multiplication.	Judy bought a pack of hamburger buns. The pack had 2 rows with 4 buns in each row. How many hamburger buns did Judy have in all?	SL.2.1.A - Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).	CRP12. - Work productively in teams while using cultural global competence.
						Write a number story to match the number model. $3 \times 5 = 15$		
How do operations affect numbers?	The magnitude of numbers affects the outcome of operations on them.	Operations and Algebraic Thinking SMP 2 – Reason abstractly and quantitatively SMP 4 – Model with mathematics.	A. Represent and solve problems involving addition and subtraction.	2.OA.A.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. ¹	Represent, and solve addition number stories using repeated addition and arrays.	Draw an array and number model for the following number story.	SL.2.6. - Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	CRP2. - Apply appropriate academic and technical skills.
						Your family of 4 members each has a bicycle. Each bicycle has 2 wheels. How many wheels are there in all? Use 24 counters and dice to build various arrays. Example: Partner A rolls 3, create 3 rows. Partner B rolls 2, place 2 counters in each of the 3 rows. Total the array.		

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What makes a computational strategy both effective and efficient?	The magnitude of numbers affects the outcome of operations on them.	Number and Operations in Base Ten	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.5 - Fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.	Use and explain strategies for solving multi-digit subtraction problems.	Estimate and find the exact difference for the following problems. 80 - 19 35 - 22 74 - 41		
What makes a computational strategy both effective and efficient?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Number and Operations in Base Ten SMP 3 – Construct viable arguments and critique the reasoning of others.	B. Use place value understanding and properties of operations to add and subtract.	2.NBT.B.6 - Add up to four two-digit numbers using strategies based on place value and properties of operations. 2.NBT.9 - Explain why addition and subtraction strategies work, using place value and the properties of operations.	Use the associative property of addition to add multiple numbers. Work toward finding the sums mentally.	Find the sum and explain how you got your answer. 14 + 6 + 9 22 + 7 + 12 7 + 11 + 9 + 14	SL.2.6. - Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.	
How do geometric relationships help to solve problems and/or make sense of phenomena?	Geometric relationships provide a means to make sense of a variety of phenomena.	Geometry	A. Reason with shapes and their attributes.	2.G.A. 3 - Partition circles and rectangles into two, three or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need	Explore equal parts.	Form shapes on a geoboard. Divide it into two, three or more equal parts.		CRP12. - Work productively in teams while using cultural global competence.

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				not have the same shape.				
Unit 9 – Whole Number Operations with Equal Sharing						Written Assessment		
Pacing – 19 Days						Open Response Question		
How do geometric relationships help to solve problems and/or make sense of phenomena?	Geometric relationships provide a means to make sense of a variety of phenomena.	Geometry SMP 6 – Attend to precision.	A. Reason with shapes and their attributes.	2.G.A. 3 - Partition circles and rectangles into two, three or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , 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.	Model fractions as equal parts of a region and name fractional parts and the whole.	Fold a paper square into two equal parts and label each part. Fold a paper circle into four equal parts and label each part.	1.3.5.D.1 - Work individually and collaboratively to create two- and three-dimensional works of art that make cohesive visual statements and that employ the elements of art and principles of design. SL.2.1.A - Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion)	CRP12. - Work productively in teams while using cultural global competence.
						Divide three sided, four sided, six sided and eight sided figures equally with and without pattern blocks. Name their parts.		
						Create a number line by folding a paper into four equal parts. Use tick marks to label the fractions.		
How do mathematical ideas interconnect and build on one another to produce a	A quantity can be represented numerically in various ways. Problem solving depends upon choosing	Operations and Algebraic Thinking SMP 2 – Reason abstractly and	C. Work with equal groups of objects to gain foundations of multiplication.	2.OA.C.4 - Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns;	Use arrays to model multiplication.	Create an array to find how many flowers are in four rows of three		CRP12. - Work productively in teams while using cultural global competence.

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coherent whole?	wise ways.	quantitatively SMP 4 – Model with mathematics.		write an equation to express the total as a sum of equal addends.				
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Computational fluency includes understanding the meaning and the appropriate use of numerical operations.	Operations and Algebraic Thinking SMP 4 – Model with mathematics.	B. Add and subtract within 20.	2.OA.B.2 - Fluently add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one-digit numbers.	Develop addition and subtraction fact fluency.	Solve the following addition and subtraction facts. 14 - 7 8 + 5 18 - 9 7 + 3		
How do geometric relationships help to solve problems and/or make sense of phenomena?	Geometric relationships provide a means to make sense of a variety of phenomena.	Geometry SMP 1 – Make sense of problems and persevere in solving them. SMP 4 – Model with mathematics.	A. Reason with shapes and their attributes.	2.G.A. S.3 - Partition circles and rectangles into two, three or four equal shares, describe the shares using the words <i>halves</i> , <i>thirds</i> , <i>half of</i> , <i>a third of</i> , 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.	Show how to share objects equally among two and four children.	Four children want to share 5 brownies. Use fractional parts to show how they can share them equally. Draw the brownies divided into fractional parts as a model.		CRP4. - Communicate clearly and effectively and with reason. CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
					Partition rectilinear figures into same size shares.	Draw or use cubes to divide irregular shapes into equal parts.		
How can measurements be used to solve problems?	What we measure affects how we measure it.	Measurement and Data SMP 5 – Construct viable arguments and critique	A. Measure and estimate lengths in standard units.	2. MD.A.1 - Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks meter sticks and measuring tapes.	Measure to the nearest inch and half inch.	Measure and record the following segments to the nearest inch: 4 in. line, 7 in. line Draw a 3 1/2 in. line segment.		

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		the reasoning of others. SMP 6 – Attend to precision.						
How can measurements be used to solve problems?	Measurements can be used to describe, compare, and make sense of phenomena.	Measurement and Data SMP 5 – Use appropriate tools strategically. SMP 6 – Attend to precision.	A. Measure and estimate lengths in standard units.	2.MD.A.4 - Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	Measure objects to the nearest inch. Find the difference in two measurements.	Measure and compare the length of two different children’s feet. Find the difference.		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	A quantity can be represented numerically in various ways. Problem solving depends upon choosing wise ways.	Number and Operations in Base Ten SMP 2 – Reason abstractly and quantitatively	A. Understand Place Value.	2.NBT.A.1 - Understand that the three digits of a three-digit number represent amounts of hundreds, tens and ones. Understand the following as special cases: 2.NBT.A.1.a - 100 can be thought of as a bundle of ten tens - called a "hundred."	Name 3 digit numbers.	Write a number with 5 hundreds, 2 tens and 4 ones. Show the following number using base ten blocks. 87 164 241		
How can we compare and contrast numbers?	Numeric fluency includes both the understanding of and the	Numbers and Operations in Base Ten SMP 6 – Attend to	A. Understand Place Value.	2.NBT.A.4 - Compare two three-digit numbers based on meanings of the hundreds, tens and ones digits, using > ,	Compare numbers.	Use <, >, = to compare these numbers: 234 ____ 243 689 ____ 799		

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	ability to appropriately use numbers.	precision.		=, < symbols to record the results of comparisons.		456 ___ 456 203 ___ 202		
How do mathematical ideas interconnect and build on one another to produce a coherent whole?	One representation may sometimes be more helpful than another; used together, multiple representations give a fuller understanding of a problem.	Number and Operations in Base Ten SMP 2 – Reason abstractly and quantitatively	A. Understand place value.	2.NBT.A.3 - Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	Model and write 3-and 4-digit numbers using Base 10 blocks.	Write the following number for 3 flats, 4 longs and 7 cubes. Write the number in expanded notation. Write the value of 4 longs, 2 flats, and 9 cubes. Write this number in expanded notation.		
How can spatial relationships be described by careful use of geometric language?	Geometric properties can be used to construct geometric figures.	Geometry SMP 7 – Look for and make use of structure.	A. Reason with shapes and their attributes.	2.G.A.1 - Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	Identify and describe shapes by their attributes.	Memory match card game. Match a shape card with an appropriate attribute. Build and draw 3 sided, 5 sided and 6 sided polygons.		
What makes a computational strategy both effective and efficient?	In many cases, there are multiple algorithms for finding a	Number and Operations in Base Ten SMP 2 –	B. Use place value understanding and properties of operations	2.NBT.B.9 - Explain why addition and subtraction strategies work, using place value and the	Use base ten blocks to subtract.	Show 64 - 27 using base ten blocks.	SL.2.6 - Produce complete sentences when appropriate to task and situation in	CRP8. - Utilize critical thinking to make sense of problems and persevere in

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	mathematical solution, and those algorithms are frequently associated with different cultures.	Reason abstractly and quantitatively	to add and subtract.	properties of operations.	Use and explain strategies for solving subtraction problems.	Use of Expand and trade strategy to solve the following: 53 – 37 151 – 129 Choose one of the problems and explain how you got your answer.	order to provide requested detail or clarification.	solving them.
How can measurements be used to solve problems?	The message conveyed by the data depends on how the data is collected, represented, and summarized.	Measurement and Data SMP 4 – Model with mathematics.	D. Represent and Interpret data.	2.MD.D.9 - Generate measurement data by measuring lengths of 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.	Collect measurement data to create a line plot and answer questions about the data.	Create a class line plot using student head size. Discuss appropriate naming features of a line plot.	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.	
How can we decide when to use an exact answer and when to use an estimate?	Context is critical when using estimation.	Measurement and Data SMP 1 – Make sense of problems and persevere insolving them. SMP 2 – Reason abstractly and quantitatively	C. Work with time and money.	2.MD.C.8 - Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using \$ and ¢ symbols appropriately.	Make equivalent amounts of money.	Students solve the following number story: You buy a one pound of lunch meat for \$1. 39. Draw two ways to pay for it using bills and coins.	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.	CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.

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How do mathematical ideas interconnect and build on one another to produce a coherent whole?	Numeric fluency includes both the understanding of and the ability to appropriately use numbers.	Number and Operations in Base Ten	A. Understand Place Value.	2.NBT.A.2 - Count within 1000; skip-count by 5s, 10s and 100s.	Count coins and bills using skip counting.	Count by 5's starting at 35. Count by 10's starting at 47. Count by 1's starting at 87. Solve the following: 8 (10's) 4 (5's) 10 (5's) How much money is 7 dimes, 3 nickels and 2 pennies.		
How can we decide when to use an exact answer and when to use an estimate?	Context is critical when using estimation.	Measurement and Data SMP 1 – Make sense of problems and persevere in solving them.	B. Work with time and money	2.NBT.B. 5 - Fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction. 2.NBT.B.6 - Add up to four two-digit numbers using strategies based on place value and properties of operations.	Estimate total costs. Share solution strategies for addition problems in the context of money.	Use estimation to determine if you will have enough money to purchase the following items. You are given \$100 to shop. The items you want to buy: CD - \$11 Tablet - \$48 Headphones - \$18 Calculator - \$24	RI.2.4. - Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.	9.1.4.E.2 - Apply comparison shopping skills to purchasing decisions.
How do mathematical ideas interconnect and	A quantity can be represented numerically in various ways.	Operations and Algebraic Thinking	C. Work with equal groups of objects to gain	2.OA.C.4 - Use addition to find the total number of objects arranged in	Use repeated addition, arrays, and skip counting to	You have two rows with 8 desks in each row. How many desks are there in		

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build on one another to produce a coherent whole?	Problem solving depends upon choosing wise ways.	SMP 7 – Look for and make use of structure.	foundations of multiplication.	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.	model multiplication.	all?		
How can we decide when to use an exact answer and when to use an estimate?	Context is critical when using estimation.	Measurement and Data SMP 7 – Look for and make use of structure. SMP 8 – Look for and express regularity in repeated reasoning.	B. Work with time and money.	2.NBT. B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.	Add numbers using repeated addition to solve a number story.	Solve the following number story. Include a number model. There are 5 boxes of pencils. Each box has 10 pencils. How many pencils are there in all?		CRP8. - Utilize critical thinking to make sense of problems and persevere in solving them.
District End-Year Assessment Pacing – 1 Day								