Grade 2 Mathematics Units of Study
2015-2016

Quarter 1	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 1.1: Understanding Place Value to the Hundreds ***Standards Highlighted in Green are Major Clusters.*** ***Standards Highlighted in Blue are Supporting Clusters.*** ***Standards Highlighted in Yellow are Additional Clusters.***	**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: a. 100 can be thought of as a bundle of ten tens — called a "hundred." b. 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). **2.NBT.3** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. **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.	**7**- Look for and make sure of structure **8**- Look for and express regularity in repeated reasoning.	5 Days 5 Days 5 Days	**2.NBT.1.a** 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: 100 can be thought of as a bundle of ten tens — called a "hundred."	**2.NBT.1.b** 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: 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). **2.NBT.3** i) At least 75% of the tasks involve a 3-digit number. **2.NBT.4** i) Tasks do not have a context. Only the answer is required (strategies, representations, etc. are not assessed here).

Quarter 1	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 1.2: Adding and Subtract Within 20 and Counting within 1,000	2.OA.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. 2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.	**7**- Look for and make sure of structure **8**- Look for and express regularity in repeated reasoning	5 Days 5 Days	**2.OA.2** i) Tasks do not have a context. ii) Only the answer is required (strategies, representations, etc. are not assessed here). Tasks require fluent (fast and accurate) finding of sums and related differences.	**2.NBT.2** i) Skip-counting may start at any multiple of 5, 10 or 100 within 1000.
Unit 1.3 Adding Within 100 using Mental Strategies and Determining Odd or Even	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. 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.		3 Days 7 Days	**2.OA.3**	**2.NBT.5** i) Tasks do not have a context. ii) Sums and differences beyond 20 but within 100 should be emphasized in 75% of the tasks. Only the answer is required (strategies, representations, etc. are not assessed here)
Unit 1.4: Measuring Time to the 5 minutes	2.MD.7 Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	4,5,6,7 &8	5 Days	**2.MD.7**	
Quarterly Assessment			3 Days		
			Total= 43 Days		

Quarter 2	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 2.1: Solving 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. **2.OA.2** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. **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.	1- Makes sense of problems and perseveres in solving them. 4-Model with mathematics	10 Days 2 Days 3 Days	**2.OA.1-1** Use addition and subtraction within 100 to solve one- 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. i) All problem situations and all of their subtypes and language variants are included but 40% of tasks should include the most difficult problem subtypes and language variants. ii) Addition and subtraction is emphasized beyond 20 but within 100 ii) For more information see CCSS Table 1, p. 88 and the OA Progression.	**2.OA.2** i) Tasks do not have a context. ii) Only the answer is required (strategies, representations, etc. are not assessed here). Tasks require fluent (fast and accurate) finding of sums and related differences. **2.NBT.5** i) Tasks do not have a context. ii) Sums and differences beyond 20 but within 100 should be emphasized in 75% of the tasks. Only the answer is required (strategies, representations, etc. are not assessed here)
Unit 2.2 Identifying and Counting Money	**2.MD.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?*	2-Reason abstractly and quantitatively. 5-Use appropriate tools strategically	5 Days	**2.MD.8**	

Quarter 2	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 2.3: 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. **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. **2.MD.3** Estimate lengths using units of inches, feet, centimeters, and meters. **2.MD.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	5-Use appropriate tools strategically 6-Attend to precision	4 Days 4 Days 2 Days 3 Days	**2.MD.1** i) Length may be measured in whole units within the same measurement system using metric or U.S. customary. ii) Units are limited to those found in 2.MD.3. **2.MD.2** i) Tasks should be limited to whole units within the same measurement system. ii) Units are limited to those found in 2.MD.3 iii) Example: Student measures the length of a table in inches and in feet and notes that the number of feet is less than the number of inches because an inch is smaller than a foot. Therefore, it takes more inch units than foot units to measure the table's length.	**2.MD.3** i) Rulers are not used to estimate. **2.MD.4** i) Length may be measured in whole units within the same measurement system using metric or U.S. customary. ii) Units are limited to those in 2.MD.3.
Unit 2.4: Relate Addition and Subtraction to Length	**2.MD.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.	1- Makes sense of problems and perseveres in solving them. 2- Reason abstractly and quantitatively 4-Model with mathematics	5 Days	**2.MD.5** i) Tasks may include measurements in whole units within the same measurement system using metric or U.S. customary. ii) Problems may be one or two-step. iii) For one-step problems, all problem situations and all of their subtypes and language variants may be included but 50% of tasks should include the most difficult problem subtypes and language variants.	**2.MD.5 Continued** iv) For two-step problems, the most difficult problem subtypes and language variants should not be included. The majority of the two-step problems involve single-digit addends. v) Subtraction and addition are emphasized beyond 20 but within 100. At least 75% of the tasks must focus on addition and subtraction greater than 20.
Quarterly Assessment			**3 Days**		
			Total = 41 Days		

Quarter 3	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 3.1: Use a Number Line to Represent Whole Numbers	**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.	5-Use appropriate tools strategically 6-Attend to precision	5 Days	**2.MD.6-1** Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, …	**2.MD.6-2** Represent whole-number sums and differences within 100 on a number line diagram. i) Subtraction and addition are emphasized beyond 20 but within 100. At least 75% of the tasks must focus on addition and subtraction greater than 20.
Unit 3.2: Represent and Interpret Data	**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. **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.	2- Reason abstractly and quantitatively 4-Model with mathematics 5-Use appropriate tools strategically 6-Attend to precision	3 Days 3 Days	**2.MD.9**	**2.MD.10**

Quarter 3	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 3.3: Using Strategies to Add and Subtract multiple 2-Digit Numbers	**2.NBT.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. (Note: Explanations may be supported by drawings or objects.)	**7**- Look for and make sure of structure **8**- Look for and express regularity in repeated reasoning	10 Days 5 Days	**2.NBT.6** i)Tasks do not have a context. ii) Only the answer is required (strategies, representations, etc. are not assessed here).	**2.NBT.9**
Unit 3.4: Adding and Subtracting within 1,000	**2.NBT.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. **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.	**7**- Look for and make sure of structure **8**- Look for and express regularity in repeated reasoning	10 Days 5 Days	**2.NBT.7** i) Emphasis is on adding and subtracting hundreds. ii) Tasks do not have a context.	**2.NBT.8** Tasks have "thin context" or no context.
Quarterly Assessment			3 Days		
			Total = 44 Days		

Quarter 4	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 4.1: Introducing Arrays	**2.OA.2** Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. **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.	3-Construct viable arguments and critique the reasoning of others. 4-Model with mathematics 5-Use appropriate tools strategically **7-** Look for and make sure of structure	5 Days 5 Days	**2.OA.2** i) Tasks do not have a context. ii) Only the answer is required (strategies, representations, etc. are not assessed here). Tasks require fluent (fast and accurate) finding of sums and related differences.	**2.OA.4**
Unit 4.2: Solve One and Two Step Story Problems	**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.	1- Makes sense of problems and perseveres in solving them. 4-Model with mathematics	15 Days	**2.OA.1-1** Use addition and subtraction within 100 to solve one-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. i) All problem situations and all of their subtypes and language variants are included but 40% of tasks should include the most difficult problem subtypes and language variants. ii) Addition and subtraction is emphasized beyond 20 but within 100 ii) For more information see CCSS Table 1, p. 88 and the OA Progression.	**2.OA.1-2** Use addition and subtraction within 100 to solve 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. i) The majority of problems (75%) involve single-digit addends. ii) The most difficult problem subtypes and language variants should not be included in these problems. For more information see CCSS Table 1, p. 88 and the OA Progression.

Quarter 4	Standard	SMP	# Days	Evidence Statements	Evidence Statements (continued)
Unit 4.3: Identifying 2-D and 3-D Shapes	**2.G.1** Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. (Note: Sizes are compared directly or visually, not compared by measuring.) Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.	6-Attend to precision **7**- Look for and make sure of structure	10 Days	**2.G.1**	
Unit 4.4: Partition Rectangles and Circles in Rows and Columns	**2.G.2** Partition a rectangle into rows and columns of same-size squares and count to find the total number of them. **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.	4- Model with mathematics 6-Attend to precision **7**- Look for and make sure of structure	7 Days 8 Days	**2.G.2**	**2.G.3**
Quarterly Assessment			**None**		
			Total = 50 Days of Instruction		

Standards for Mathematical Practices Check List

Teacher:	**Mathematical Topic(s):**	**Date:**
1. Makes sense of problems and perseveres in solving them ☐ Understands the meaning of the problem and looks for entry points to its solution ☐ Analyzes information (givens, constrains, relationships, goals) ☐ Designs a plan ☐ Monitors and evaluates the progress and changes course as necessary ☐ Checks their answers to problems and ask, "Does this make sense?" **Comments:**	**2. Reason abstractly and quantitatively** ☐ Makes sense of quantities and relationships ☐ Represents a problem symbolically ☐ Considers the units involved ☐ Understands and uses properties of operations **Comments:**	**3. Construct viable arguments and critique the reasoning of others** ☐ Uses definitions and previously established causes/effects (results) in constructing arguments ☐ Makes conjectures and attempts to prove or disprove through examples and counterexamples ☐ Communicates and defends their mathematical reasoning using objects, drawings, diagrams, actions ☐ Listens or reads the arguments of others ☐ Decide if the arguments of others make sense ☐ Ask useful questions to clarify or improve the arguments **Comments:**
4. Model with mathematics. ☐ Apply reasoning to create a plan or analyze a real world problem ☐ Applies formulas/equations ☐ Makes assumptions and approximations to make a problem simpler ☐ Checks to see if an answer makes sense and changes a model when necessary **Comments:**	**5. Use appropriate tools strategically.** ☐ Identifies relevant external math resources (digital content on a website) and uses them to pose or solve problems ☐ Makes sound decisions about the use of specific tools. Examples may include: ☐ Calculator ☐ Concrete models ☐ Digital Technology ☐ Pencil/paper ☐ Ruler, compass, protractor ☐ Uses technological tools to explore and deepen understanding of concepts **Comments:**	**6. Attend to precision.** ☐ Communicates precisely using clear definitions ☐ States the meaning of symbols, calculates accurately and Efficiently ☐ Provides carefully formulated explanations ☐ Labels accurately when measuring and graphing **Comments:**
7. Look for and make use of structure. ☐ Looks for patterns or structure ☐ Recognize the significance in concepts and models and can apply strategies for solving related problems ☐ Looks for the big picture or overview **Comments:**	**8. Look for and express regularity in repeated reasoning.** ☐ Notices repeated calculations and looks for general methods and shortcuts ☐ Continually evaluates the reasonableness of their results while Attending to details and makes generalizations based on findings ☐ Solves problems arising in everyday life **Comments:**	**Comments:**

Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved.
Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete

referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies.
Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4. Model with mathematics.
Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5. Use appropriate tools strategically.
Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

6. Attend to precision.
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

7. Look for and make use of structure.
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

8. Look for and express regularity in repeated reasoning.
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y – 2)/(x – 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x – 1)(x + 1)$, $(x – 1)(x2 + x + 1)$, and $(x – 1)(x3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Connecting the Standards for Mathematical Practice to the Standards for Mathematical Content
The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction. The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.
In this respect, those content standards which set an expectation of understanding are potential “points of intersection” between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Operations and Algebraic Thinking

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. (Note: See Glossary, Table 1.)

Add and subtract within 20.

2.OA.2 Fluently add and subtract within 20 using mental strategies. (Note: See standard 1.OA.6 for a list of mental strategies). By end of Grade 2, know from memory all sums of two one-digit numbers.

Work with equal groups of objects to gain foundations for multiplication.

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.

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.

Number and Operations in Base Ben

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:

a. 100 can be thought of as a bundle of ten tens – called a "hundred."

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).

2.NBT.2 Count within 1000; skip-count by 5s, 10s, and 100s.

2.NBT.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.

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.

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.

2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

2.NBT.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.

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.

2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations. (Note: Explanations may be supported by drawings or objects.)

Measurement and Data

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.

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.

2.MD.3 Estimate lengths using units of inches, feet, centimeters, and meters.

2.MD.4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

2.MD.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.

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.

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.

2.MD.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?*

Represent and interpret data.

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.

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.

Geometry

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. (Note: Sizes are compared directly or visually, not compared by measuring.) Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

2.G.2 Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.

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.