

Westside Consolidated School District
Common Core State Standards
Curriculum Guide for Grade 2 Mathematics

DRAFT January 2015

Grade 2 Overview

- **Operations and Algebraic Thinking**
 - Represent and solve problems involving addition and subtraction – *within 100*.
 - Add and subtract within 20.
 - Work with equal groups of objects to gain foundations for multiplication – *even or odd, rectangular arrays*.
- **Number and Operations in Base Ten**
 - Understand place value – *hundred, tens, and ones. Count within 1,000; skip count by 5's, 10's, 100's*.
 - Use place value understanding and properties of operations to add and subtract.
- **Measurement and Data**
 - Measure and estimate lengths in standard units.
 - Relate addition and subtraction to length -- *within 100*.
 - Work with time and money – *tell/write time from analog and digital clocks to the nearest 5 minutes using am and pm. Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols*.
 - Represent and interpret data – *with up to 4 categories. Use line plots (whole number unit markings), picture graphs, and bar graphs*.
- **Geometry**
 - Reason with shapes and their attributes – *triangles, quadrilaterals, pentagons, hexagons, cubes; sizes compared visually*.
 - *Partition rectangles and circles into 2-, 3-, and 4-equal shares*.

Resources:

Textbook Series: enVision Math, © 2009, Scott Foresman-Addison Wesley

Investigations in Number, Data, and Space, Pearson Publishing

Investigations and the Common Core State Standards in Math Home Page: <http://investigations.terc.edu/components/CCSS/CommonCore.cfm>

Math Common Core State Standards Kindergarten Correlation: http://investigations.terc.edu/library/common_core/GK_InvCCSS_Corr.pdf

The Common Core State Standards Home Page: <http://www.corestandards.org/>

The Common Core State Standards for Mathematics: http://www.corestandards.org/assets/CCSSI_Math%20Standards.pdf

Common Core Unpacking resource: C2 Collaborative, Inc.: <http://ccstudio.org/Home.aspx>

Wynne County Public Schools, NC: Curriculum Guides: <http://www.waynecountyschools.org/Page/375>

CCSS: Standards for Mathematical Practice

- 1. Make sense of problems and persevere in solving them.**
- 2. Reason abstractly and quantitatively.**
- 3. Construct viable arguments and critique the reasoning of others.**
- 4. Model with mathematics.**
- 5. Use appropriate tools strategically.**
- 6. Attend to precision.**
- 7. Look for and make use of structure.**
- 8. Look for and express regularity in repeated reasoning.**

CCSS: Mathematics

K – 8 Domains

Domains		K	1	2	3	4	5	6	7	8
Counting and Cardinality	CC									
Operations and Algebraic Thinking	OA				30-35%	12-17%	5-10%			
Number and Operations in Base Ten	NBT				5-10%	22-27%	22-27%			
Measurement and Data	MD				22-27%	12-17%	10-15%			
Geometry	G				10-15%	12-17%	2-7%	12-17%	22-27%	20-25%
Number and Operations -- Fractions	NF				20-25%	27-32%	47-52%			
Ratios and Proportional Relationships	RP							12-17%	22-27%	
The Number System	NS							27-32%	7-12%	2-7%
Expressions and Equations	EE							27-32%	22-27%	27-32%
Statistics and Probability	SP							7-12%	12-17%	15-20%
Functions	F									22-27%

At A Glance: Comparing the new *Common Core State Standards* to the old *Arkansas Frameworks*.

This page provides a snapshot of the mathematical concepts that are **NEW** or have been **MOVED** from this grade level.

NEW to 2nd Grade:

Addition with rectangular arrays (2.OA.4)
Count within 1,000 by 5s, 10s, 100s (2.NBT.2)
Mentally add and subtract by 10 & 100 (2.NBT.8)
Measurement concepts (2.MD.2, 2.MD.4, 2.MD.5, 2.MD.6)
Money (2.MD.8)
Line Plots, Picture graphs, bar graphs (2.MD.9, 2.MD.10)

MOVED from 2nd Grade:

Estimation while computing
Temperature
Cut and rearrange 2-D and 3-D figures
Symmetric and congruent figures
Venn diagrams and pictographs
Probability
Repeating and growing patterns

Note:

For more information on deconstructed standards and performance based assessments visit ccstudio.org

Directions:

This is a live document that will be the foundation for math instruction. The next four pages outline what should be taught during each nine-week period for Common Core Standards and vocabulary as a pacing guide. The fifth page is all of the nine-week periods on one page for all the information at-a-glance.

The Pacing Guide- In the last column write in the Topic and lesson number from envisionMATH 2011 edition. This will allow you to decide what Topics best fit the standard. You can also add the Big Ideas if you would like to. Add any more information as necessary. Since this is a working document, feel free to make comments for adjustments in the future.

The At-A-Glance - Add page numbers, Topics, or lesson numbers next to the standard listed. At the bottom of each nine-weeks section list any projects, resources, or manipulatives to supplement the text.

1st Nine Weeks

Domain	<i>Common Core State Standards</i>	Major Topics/Concepts	Textbook Alignment <i>enVision Math</i> ©2011	Resources/ Lit. Connections
Operations & Algebraic Thinking	2.OA.1 2.OA.2 2.OA.3	<p>Represent and solve problems involving addition and subtraction.</p> <ul style="list-style-type: none"> ● 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. <p>Add and subtract within 20.</p> <ul style="list-style-type: none"> ● 2.OA.2 – Fluently add/subtract within 20 using mental strategies. By the end of grade two know from memory all sums of two, one digit numbers <p>Work with equal groups of objects to gain foundations for multiplication.</p> <ul style="list-style-type: none"> ● 2.OA.3 Determine whether a group of objects (up to 10) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends 		<p>CGI Problem- Joining, Separating, Comparing, and Part-Part Whole</p> <p>Saxon Math-Facts strategies-Doubles, doubles plus one, sums of 10, adding 2</p> <p>EnVision Math Facts</p> <p>Common Core formative assessments</p> <p>Math 4 Today</p> <p>Number of the day</p> <p>Topic 5-Place Value</p>
Numbers & Operations in Base 10	2.NBT.1 2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.5 2.NBT.8 2.NBT.9	<p>Understand place value.</p> <ul style="list-style-type: none"> ● 2.NBT.1 -Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; 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 5’s, 10’s, and 100’s ● 2.NBT.3 - Read and write numbers to 1000, using <i>base-10 numerals</i>, <i>number names</i>, and <i>expanded form</i>. ● 2.NBT.4 - Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons. 		<p>CGI Problem - Joining, Separating, Comparing, and Part-Part Whole</p> <p>Saxon Math -Fact strategies -</p> <p>Common Core formative assessments</p> <p>Math 4 Today</p> <p>Number of the day</p> <p>EnVision Math Facts</p> <p>Topic 5-Place Value</p>

		<p>Use place value understanding and properties of operations to add and subtract.</p> <ul style="list-style-type: none"> ● 2. NBT.5 – Fluently add/subtract within 100 using strategies based on place value, properties of operations, and/or the <i>relationship between addition and subtraction</i>. ● 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. 		
<p>Measurement & Data</p>	<p>2.MD.1 2.MD.2 2.MD.3 2.MD.4 2.MD.5 2.MD.7 2.MD.9 2.MD.10</p>	<p>Measure and estimate lengths in standard units.</p> <ul style="list-style-type: none"> ● 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 <i>length units</i> of different lengths for the 2 measurements; describe how the 2 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 <i>standard length unit</i>. <p>Relate addition and subtraction to length.</p> <ul style="list-style-type: none"> ● 2. MD.5 – Use addition/subtraction within 100 to solve word problems involving lengths that are given in the <i>same length units</i> by: <ul style="list-style-type: none"> - using drawings (such as drawings of rulers) - and using equations with a symbol for the unknown number to represent the problem. <p>Work with <u>time</u> and money.</p> <ul style="list-style-type: none"> ● 2. MD.7 – Tell/write time from analog & digital clocks to the nearest 5 minutes, using <i>am</i> and <i>pm</i>. <p>Represent and interpret data.</p> <ul style="list-style-type: none"> ● 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 		<p>CGI Problem Saxon Math Common Core formative assessments Math 4 Today Number of the day EnVision Math Facts Online Resources Topic 15-Measuring length Topic 16-Time, Graphs, and Data</p>

horizontal scale is marked off in whole-number units.

Represent and interpret data.

- **2. MD.10** – Draw a picture graph or a bar graph (with a 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.

2nd Nine Weeks

Domain	<i>Common Core State Standards</i>	Major Topics/Concepts	Textbook Alignment <i>enVision Math©2011</i>	Resources/ Lit. Connections
Numbers and Operations in Base Ten	2.NBT.2 2.NBT.5	<p>Understand place value.</p> <ul style="list-style-type: none"> ● 2. NBT.2 – Count within 1000; skip-count by 5’s, 10’s, and 100’s <p>Use place value understanding and properties of operations to add and subtract.</p> <ul style="list-style-type: none"> ● 2. NBT.5 – Fluently add/subtract within 100 using strategies based on place value, properties of operations, and/or the <i>relationship between addition and subtraction</i>. 		<p>CGI Problem - Joining, Separating, Comparing, and Part-Part Whole</p> <p>Saxon Math -Fact strategies -</p> <p>Common Core formative assessments</p> <p>Math 4 Today</p> <p>Number of the day</p> <p>EnVision Math Facts Topic 6-Mental Addition</p>
Measurement & Data	2.MD.8	<p>Work with time and <u>money</u>.</p> <ul style="list-style-type: none"> ● 2. MD.8 - Solve word problems involving dollar bills, quarters, dimes, nickles, and pennies, using \$, cent symbol appropriately. 		<p>CGI Problem - Joining, Separating, Comparing, and Part-Part Whole</p> <p>Saxon Math -Fact strategies -</p> <p>Common Core formative assessments</p> <p>Math 4 Today</p> <p>Number of the day</p> <p>EnVision Math Facts Topic 13-Counting Money</p>
Geometry	2.G.1 2.G.2	Reason with shapes and their attributes.		CGI Problem -

	<p>2.G.3</p>	<ul style="list-style-type: none"> ● 2. G.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. ● 2. G.2 – Partition a rectangle into rows and columns of same-size squares; count to find the total number of same-size squares. ● 2. G.3 - Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. 		<p>Joining, Separating, Comparing, and Part-Part Whole</p> <p>Saxon Math -Fact strategies -</p> <p>Common Core formative assessments</p> <p>Math 4 Today</p> <p>Number of the day</p> <p>EnVision Math Facts Topic 12-Geometry</p>
<p>Operations & Algebraic Thinking</p>	<p>2.OA.1 2.OA.2 2.OA.3</p>	<p>Represent and solve problems involving addition and subtraction.</p> <ul style="list-style-type: none"> ● 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. <p>Add and subtract within 20.</p> <ul style="list-style-type: none"> ● 2. OA.2 – Fluently add/subtract within 20 using mental strategies. By the end of grade two know from memory all sums of two, one digit numbers <p>Work with equal groups of objects to gain foundations for multiplication.</p> <ul style="list-style-type: none"> ● 2.OA.3 Determine whether a group of objects (up to 10) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends. 		<p>CGI Problem - Joining, Separating, Comparing, and Part-Part Whole</p> <p>Saxon Math -Fact strategies -</p> <p>Common Core formative assessments</p> <p>Math 4 Today</p> <p>Number of the day</p> <p>EnVision Math Facts Topic 4-Working with Equal Groups</p>

3rd Nine Weeks

Domain	<i>Common Core State Standards</i>	Major Topics/Concepts	Textbook Alignment <i>enVision Math</i> ©2011	Resources/ Lit. Connections
Numbers & Operations in Base Ten	2.NBT.5 2.NBT.6 2.NBT.8	<p>Use place value understanding and properties of operations to add and subtract.</p> <ul style="list-style-type: none"> ● 2. NBT.5 – Fluently add/subtract within 100 using strategies based on place value, properties of operations, and/or the <i>relationship between addition and subtraction</i>. ● 2. NBT.6 - Add up to four two-digit numbers using strategies based on place value and properties of operations. ● 2. NBT.8 - Mentally add/subtract 10 or 100 to/from a given number 100 - 900. 		CGI Problem - Saxon Math Common Core formative assessments Math 4 Today Number of the day EnVision Math Facts Topic 7-Mental Subtraction Topic 8-Adding Two Digit Numbers Topic 9-Subtracting Two Digit Numbers
Measurement & Data	2.MD.6	<p>Relate addition and subtraction to length.</p> <ul style="list-style-type: none"> ● 2. MD.6 - Represent whole-numbers as lengths from zero on a number line diagram with equal space points corresponding to the numbers 0,1,2..., and represent whole number sums and differences within 100 on a number line diagram. 		Common Core formative assessments Saxon Math Math 4 Today Number of the day EnVision Math Facts Topic 8-Adding Two Digit Numbers Topic 9-Subtracting Two Digit Numbers
Operations & Algebraic Thinking	2.OA.1 2.OA.2 2.OA.3 2.OA.4	<p>Represent and solve problems involving addition and subtraction.</p> <ul style="list-style-type: none"> ● 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. 		CGI Problem Saxon Math Common Core formative assessments Math 4 Today Number of the day EnVision Math Facts

Add and subtract within 20.

- **2.OA.2** – Fluently add/subtract within 20 using mental strategies. By the end of grade two 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 10) 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

4th Nine Weeks

Domain	<i>Common Core State Standards</i>	Major Topics/Concepts	Textbook Alignment <i>enVision Math</i> ©2011	Resources/ Lit. Connections
Operations & Algebraic Thinking	2.OA.1 2.OA.2 2.OA.3 2.OA.4	<p>Represent and solve problems involving addition and subtraction.</p> <ul style="list-style-type: none"> ● 2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. <p>Add and subtract within 20.</p> <ul style="list-style-type: none"> ● 2. OA.2 – Fluently add/subtract within 20 using mental strategies. By the end of grade two know from memory all sums of two, one digit numbers <p>Work with equal groups of objects to gain foundations for multiplication.</p> <ul style="list-style-type: none"> ● 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. 		CGI Problem - Joining, Separating, Comparing, and Part-Part Whole Saxon Math -Fact strategies - Common Core formative assessments Math 4 Today Number of the day EnVision Math Facts
Numbers & Operations in Base Ten	2.NBT.1 2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.7 2.NBT.8 2.NBT.9	<p>Understand place value.</p> <ul style="list-style-type: none"> ● 2. NBT.1 -Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; 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 5’s, 10’s, and 100’s 		CGI Problem Saxon Math Common Core formative assessments Math 4 Today Number of the day EnVision Math Facts Topic 10-Place Value to 1000 Topic 11-Three Digit Addition and Subtraction

		<ul style="list-style-type: none"> ● 2. NBT.3 - Read and write numbers to 1000, using <i>base-10 numerals</i>, <i>number names</i>, and <i>expanded form</i>. ● 2. NBT.4 - Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using $>$, $=$, and $<$ symbols to record the results of comparisons. <p>Use place value understanding and properties of operations to add and subtract.</p> <ul style="list-style-type: none"> ● 2. NBT.7 - Add and subtract within a 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 <p>Use place value understanding and properties of operations to add and subtract.</p> <ul style="list-style-type: none"> ● 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. 		
Measurement & Data	2.MD.8	<p>Work with time and <u>money</u>.</p> <ul style="list-style-type: none"> ● 2. MD.8 - Solve word problems involving dollar bills, quarters, dimes, nickles, and pennies, using \$, cent symbol appropriately. 		CGI Problem Saxon Math Common Core formative assessments Math 4 Today Number of the day EnVision Math Facts Topic 14-Money

Westside Consolidated School District *Common Core State Standards* – Mathematics 2nd Grade At-A-Glance-Guide

Essential Questions should be incorporated into daily math activities in order to engage students in real life problem solving.

Domain	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Operations and Algebraic thinking	2.OA.1 2.OA.2 2.OA.3	2.OA.1 2.OA.2 2.OA.3 2.OA.4	2.OA.1 2.OA.2 2.OA.3	2.OA.1 2.OA.2 2.OA.3 2.OA.4
Number and Operations in Base Ten	2.NBT.1 2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.5 2.NBT.8 2.NBT.9	2.NBT.2 2.NBT.5	2.NBT.5 2.NBT.6 2.NBT.8	2.NBT.1 2.NBT.2 2.NBT.3 2.NBT.4 2.NBT.7 2.NBT.8 2.NBT.9
Measurement and Data	2.MD.1 2.MD.2 2.MD.3 2.MD.4 2.MD.5 2.MD.7 2.MD.9 2.MD.10	2.MD.8	2.MD.6	2.MD.8
Geometry		2.G.1 2.G.2 2.G.3		
Document resources/ Page numbers in textbooks/ links to sites/ projects				

--	--	--	--	--

Textbook Resource: **Grade 2 enVision Math**, © 2011, Scott Foresman- Addison Wesley, Pearson Education, Inc.

Alignment of Textbook Topic Content to the *Math CCSS*:

NOTE: Not all sections of each Topic are aligned to the *Math CCSS* – be sure to use *ONLY* the sections that are aligned to the *Math CCSS*.

Table of Topics

Common Core- 2nd Grade Standards

Critical Areas

- 1. Extending understanding of base-ten notation** – Students extend their understanding of the base-ten system. This includes ideas of counting in fives, tens, and multiples of hundreds, tens, and ones, as well as number relationships involving these units, including comparing. Students understand multi-digit numbers (up to 1000) written in base-ten notation, recognizing that the digits in each place represent amounts of thousands, hundreds, tens, or ones (e.g., 853 is 8 hundreds + 5 tens + 3 ones).
- 2. Building fluency with addition and subtraction** – Students use their understanding of addition to develop fluency with addition and subtraction within 100. They solve problems within 1000 by applying their understanding of models for addition and subtraction, and they develop, discuss, and use efficient, accurate, and generalizable methods to compute sums and differences of whole numbers in base-ten notation, using their understanding of place value and the properties of operations. They select and accurately apply methods that are appropriate for the context and the numbers involved to mentally calculate sums and differences for numbers with only tens or only hundreds.
- 3. Using standard units of measure** – Students recognize the need for standard units of measure (centimeter and inch) and they use rulers and other measurement tools with the understanding that linear measure involves iteration of units. They recognize that the smaller the unit, the more iterations they need to cover a given length.
- 4. Describing and analyzing shapes** – Students describe and analyze shapes by examining their sides and angles. Students investigate, describe, and reason about decomposing and combining shapes to make other shapes. Through building, drawing, and analyzing two- and three-dimensional shapes, students develop a foundation for understanding attributes of two- and three-dimensional shapes, students develop a foundation for understanding area, volume, congruence, similarity, and symmetry in later grades.

Mathematical Practices

- 1. Make sense of problems and persevere in solving them.**
- 2. Reason abstractly and quantitatively.**
- 3. Construct viable arguments and critique the reasoning of others.**
- 4. Model with mathematics.**

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

8. Look for and express regularity in repeated reasoning.

Operations and Algebraic Thinking

2.OA

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 CCSS Glossary & Table 1.)

Add and subtract within 20.

2.OA.2 Fluently add and subtract within 20 using mental strategies. (Note: See CCSS 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 Ten

2.NBT

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

2.MD

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. (Note: See CCSS Glossary & Table 1.)

Geometry

2.G

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.

NOTE: CCSS 1.OA.6 ---- referenced in CCSS 2.OA.2

Mental Strategies

- Counting on
- Making ten
 - e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$
- Decomposing a number leading to a ten
 - e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$
- Using the relationship between addition and subtraction
 - e.g., knowing that $8 + 4 = 12$, one knows that $12 - 8 = 4$
- Creating equivalent but easier or known sums
 - e.g., adding $6 + 7$ by creating the equivalent $6 + 6 + 1 = 12 + 1 = 13$

