

Lady Liberty Academy

# First Grade Curriculum

# Mathematics

# Revised 2014

# Introduction

Lady Liberty Academy designs it math curriculum around engaging and relevant math tasks. Teachers use the program *Math in Focus* as a general guide with supplemental resources to expand the math instruction as needed. Math manipulatives and technology offer students an added hands-on experience with math concepts. Ultimately, the goal is for students to mentally solve number problems (math fluency) without relying on finger-counting.

Lady Liberty Academy recognizes that all students learn at different rates; therefore, teachers need to meet students at their current academic level, whether it's below grade level or above.  The ***Vertical Progression Guide*** document outlines each standard as it develops in complexity through the grade levels.  Teachers are expected to use the ***Vertical Progression Guide*** to fill in gaps in learning from previous grades, and to challenge advanced students who are ready for above-grade-level assignments. A vertical progression guideline is located at the end of each grade level curriculum.

All of our curriculum units may be found online through the ***Departments*** tab on our school website at [www.LLACS.org](http://www.LLACS.org).

Trimester 1 – Chapter 1

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| **CHAPTER 1-Numbers to 10** |
| **Chapter Summary:** The focus of this chapter is counting and comparing numbers up to 10.**Big Idea:** Count and compare numbers to 10. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Extend the counting sequence.**1. Count to10, starting at any number less than 10. In this range, read and write numerals and represent a number of objects with a written numeral. [Count to120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.] **[1-NBT1]** **2**. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:a. 10 can be thought of as a bundle of ten ones — called a “ten.”b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. **1.NBT.2** 3. Compare two one-digit numbers based on the meanings of the ones digits.\* [Compare two two-digit numbers based on the meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. **[1-NBT3]** | Students will:* count from 0 to 10 objects
* read and write 0 to 10 in numbers and words
* compare two sets of objects by using one-to-one correspondence
* identify the set that has more, fewer, or the same number of objects
* identify the number that is greater than or less than another number
* make number patterns

Children willuse the vocabulary more, same, or fewer.  |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| counters, Ten Frames (TR01/02), Shoes and Socks Cut Out (TR02), scissors,  | Ch. 1 Pre-Test (grade not recorded)AMP: Ch. 1, Lessons 1-3  | 8 days |  |
| **Vocabulary:** Number words (zero-ten), same, more, fewer, greater than, less than, pattern, more than, true/false | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com> | *Everyday Counts* Calendar Math |

Trimester 1-Chapter 2

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| **CHAPTER 2-Number Bonds** |
| **Chapter Summary:** This chapter focuses on the use of number bonds to represent a number showing parts and a whole. This chapter is used to teach the number bond model. It is not intended for mastery of addition facts.**Big Idea:** Number bonds can be used to show parts and whole. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Understand and apply properties of operations and the relationship** **between addition and subtraction.** 3. Apply properties of operations as strategies to add.  (Students need not use formal terms for these properties.)  Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known  (Commutative Property of Addition). To add 2 + 6 + 4, the second two numbers can be added to make  a ten, so 2 + 6 + 4 = 2 + 10 =12 (Associative Property of Addition) [Apply properties of operations as strategies to add and subtract.]  (Students need not use formal terms for these properties.) **[1-OA3]** Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known  (Commutative Property of Addition).  | Students will:* use connecting cubes or a math balance to find number bonds
* find different number bonds for numbers to 10
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| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Math balanceWeights for balanceNumber bond resource (TR21) | Ch. 2 Pre-Test (grade not recorded)AMP: Ch. 2  | 7 days |  |
| **Vocabulary/Word Wall:**part, whole, number bond, true/false | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com> | *Everyday Counts* Calendar Math |

Trimester 1-Chapter 3

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| **CHAPTER 3-Addition Facts to 10** |
| **Chapter Summary:** This chapter focuses on multiple addition strategies used to add numbers to 10.**Big Idea:** Addition can be used to find how many in all. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Represent and solve problems involving addition and subtraction.** 1. Use addition within 10 to solve word problems involving situations of adding to and putting together, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See Appendix A, Table 1 in CCSS document.)[Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See Appendix A, Table 1 in CCSS document.)] **[1-OA1)****Understand and apply properties of operations and the relationship between addition and subtraction.** 3. Apply properties of operations as strategies to add. (Students need not use formal terms for these properties.)  Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known (Commutative Property of Addition). To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 =12 (Associative Property of Addition). [Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.) **[1-OA3]** Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known (Commutative Property of Addition).**Add and subtract within 20.**5. Relate counting to addition (e.g., by counting on 2 to add 2).  [Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).] **[1-OA5]** 6. Add within 10, demonstrating fluency for addition within 10. Use strategies such as counting on; and creating equivalent but easier or known sums (e.g., adding 4 + 5 by creating the known equivalent 4 + 4 + 1 = 8 + 1 = 9). Use strategies such as 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 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).]  **[1-OA6]****Work with addition and subtraction equations.** 7. Understand the meaning of the equal sign, and determine if equations involving addition are true or false.  **[1-OA7]** Example: Which of the following equations are true and which are false: 6 = 6, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2? Example: Which of the following equations are true and which are false: 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2?] 8. Determine the unknown whole number in an addition equation relating three whole numbers. **[1-OA8]** Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 10 and 6 + 2 = \_\_\_\_. **[1-OA8]** Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 10, 5 = - 3, and 6 + 2 = \_\_\_\_.] | Students will:* count on to add
* use number bonds to add in any order
* write and solve addition sentences
* tell addition stories about pictures
* write addition sentences
* write addition stories
* solve real-world problems
* determine if number sentences involving addition and subtraction are true or false.
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| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Connecting CubesCountersTen frame (TR01)Number cards (TR03)Paper cups | Ch. 3 Pre-Test (grade not recorded)AMPs: Ch. 3, Lesson 1 Ch. 3, Lessons 2 & 3  | 11 days |  |
| **Vocabulary/Word Wall:** add plus (+) equal to (=) addition sentence more than addition story true/false | Teacher terminology: true/false |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com> | *Everyday Counts* Calendar Math |

Trimester 1-Chapter 4

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| **CHAPTER 4-Subtraction Facts to 10** |
| **Chapter Summary:** This chapter focuses on the use of multiple strategies to subtract numbers.**Big Idea:** Subtraction can be used to find out how many are left. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Represent and solve problems involving addition and subtraction.** 1. Use addition and subtraction within 10 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. [Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.] (See Appendix A, Table 1 in CCSS document.) [1-OA1)**Understand and apply properties of operations and the relationship between addition and subtraction.** 4. Understand subtraction as an unknown-addend problem. [1-OA4] Example: Subtract 10 – 8 by finding the number that makes 10 when added to 8.**Add and subtract within 20.** 5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). [1-OA5] 6. Add and subtract within 10, demonstrating fluency for addition and subtraction within 10. Use strategies such as 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 12 – 8 = 4); and creating equivalent but easier or known sums  (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).[Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as 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 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).] **[1-OA6]****Work with addition and subtraction equations.** 7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. **[1-OA7]** Example: Which of the following equations are true and which are false: 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2? 8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers**. [1-OA8]** Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 11, 5 = - 3, and 6 + 6 = \_\_\_\_.**Extend the counting sequence.**9. Count to 10, starting at any number less than 10. In this range, read and write numerals and represent a number of objects with a written numeral.  [Count to120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.] **[1-NBT1]** | Students will:* subtract by taking away, counting on, counting back, and using number bond strategies
* use number bonds to show the relationship between addition and subtraction
* write and solve subtraction sentences
* tell subtraction stories about pictures
* solve real world problems
* recognize related addition and subtraction sentences
* write and use fact families
* determine if number sentences involving addition and subtraction are true or false.
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| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Connecting CubesCountersCounting tapeTen frames (TR01)Math balanceNumeral/Symbol Cards (TR04)Problem Solving Grid (TR05)*Subtraction Action* by Leedy | Ch. 4 Pre-Test (NOT GRADED)AMP: Ch. 4, Lessons 1-2Ch. 4, Lessons 3-4a | 18 days |  |
| **Vocabulary:** Take away, subtract, minus (-), subtraction sentence, less than, subtraction story, fact family, true/false | Teacher terminology: true/false |
| **Supplementary Resources** | **Suggested Resources**  |
| Subtraction Action by Loreen Leedy<https://www-k6.thinkcentral.com> | *Everyday Counts* Calendar Math |

Trimester 1- Chapter 5

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| **CHAPTER 5-Shapes and Patterns (Lessons 1-4 Only; Omit lessons 5 and 6-not Common Core)** |
| **Chapter Summary:** Explore, identify, and compare plane and solid shapes and in the real world.**Big Idea:** Explore, identify and compare plane and solid shapes in patterns and in the real world. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Reason with shapes and their attributes.** 19. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. [1-G1] 20. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and trimester-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as “right rectangular prism”.) [1-G2]21. Partition circles and rectangles into two and four equal shares,  describe the shares using the words *halves, fourths,* and *trimesters,*  and use the phrases *half of, fourth of,* and *trimester of.* Describe the  whole as *two of,* or *four of* the shares. Understand for these  examples that decomposing into more equal shares creates smaller  shares. [1-G3] Note: p252b Math in Focus book | Students will:* explore, identify, and compare plane and solid shapes in the real world
* identify, classify, and describe plane shapes
* make same and different shapes
* identify, classify, and sort solid shapes
* combine and separate plane and solid shapes
* identify plane and solid shapes in real life
* Divide shapes into two and four equal parts.
* Describe the whole as the sum of its parts.
* Understand that dividing a whole into more equal parts creates smaller parts.
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| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Geometric solids/ Attribute blocksTwo Squares to Fold (TR06)Shapes to Fold (TR07)Table of Shapes (TR08)Shapes to Combine (TR09)Shapes to Cut Out (TR10)Table of Solids (TR11)Paper/ Scissors/colored pipe cleanersMarkers, sticky tack, common objects | Ch. 5 Pre-Test (NOT GRADED)AMPs: Chapter 5, Lessons 1 - 2Chapter 5, Lessons 3-4 | 6 days |  |
| **Vocabulary:** Circle, triangle, square, rectangle, side, corner, sort, color, alike, shape, size, different, rectangular prism, cube, sphere, cone, cylinder, pyramid, stack, slide, roll, halves, fourths, trimesters, half of, fourth of, trimester of | Teacher terminology:halves, fourths, trimesters, half of, fourth of, trimester of |
| **Supplementary Resources** | **Suggested Resources**  |
| Math in Focus p252bhttp://alex.state.al.us/<https://www-k6.thinkcentral.com>Supplementary resources will be needed to teach 1-G3 adequately. | *Everyday Counts* Calendar Math*The Doorbell Rang* by Pat Hutchins*The Hershey’s Milk Chocolate Fractions Book* by Jerry Pallotta *Give Me Half* by Stuart J. MurphyExamples:* How can you equally share a rectangle? A circle? Can you share it with 3 friends?
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Trimester 2-Chapter 6- Ordinal Numbers and Position- OMIT (not Common Core for 1st Grade)

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| **CHAPTER 6-Ordinal Numbers and Position**  OMIT (not Common Core for 1st Grade) |
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| **CC Standards and Clusters** | **Learning Outcomes**  |
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| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
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| **Vocabulary:**   | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
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Trimester 2- Chapter 7

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| **CHAPTER 7-Numbers to 20** |
| **Chapter Summary:** This chapter focuses on counting, comparing, and ordering numbers to 20.**Big Idea**: Count, compare, and order numbers to 20. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Extend the counting sequence.**9. Count to 20, starting at any number less than 20. In this range, read and write numerals and represent a number of objects with a written numeral. [Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. [1-NBT1] **Understand place value.** 10. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: [1-NBT2] a. 10 can be thought of as a bundle of ten ones, called a “ten.” [1- NBT2a] b. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. [1-NBT2b] 11.Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.\* [NBT3]\*The symbols < , >, and = are not used in Math in Focus. Common Core requires students to be able to use the symbols | Students will:.* count, compare, and order numbers to 10
* count on from 10 to 20
* read and write 11-20 in words and numbers
* use a place value chart to show numbers up to 20
* show objects up to 20 as tens and ones
* compare numbers to 20
* order numbers by making number patterns
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| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Connecting cubes, counters, number cubes, unit cubes (ones), tens rods, Ten Frames (TR01), craft sticks, Place Value Chart (TR13), clear containers, paper bags, clear bags, rubber bands or string | Ch. 7 Pre-Test (NOT GRADED)AMPs: Ch. 7, Lessons 1-2 Ch. 7, Lessons 3-4 | 15 days |  |
| **Vocabulary:** Number words *eleven* through *twenty*GreatestLeastPlace value chartOrder < , >,= | Teacher terminology: < , >, = |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>Standard 11 comparing numbers with symbols is not in chapter 7. Teacher needs to use supplemental resources for symbols. See ALEX website below.http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 2- Chapter 8

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| **CHAPTER 8-Addition and Subtraction Facts to 20** |
| **Chapter Summary:** Add and subtract numbers to 20 using a variety of strategies (i.e. doubles, doubles plus 1). The ten frame should be used extensively. **Big Idea:** Different strategies can be used to add and subtract. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Represent and solve problems involving addition and subtraction.** 1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See Appendix A, Table 1 in CCSS document.) [1-OA1) 2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. [1-OA2]**\*****Understand and apply properties of operations and the relationship between addition and subtraction.** 4. Understand subtraction as an unknown-addend problem. [1-OA4] Example: Subtract 10 – 8 by finding the number that makes 10 when added to 8.**Add and subtract within 20.** 6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as 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 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). [1-OA6]**Work with addition and subtraction equations.**7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. [1-OA7] Example: Which of the following equations are true and which are false: 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2? 8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. [1-OA8] Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 11, 5 = - 3, and 6 + 6 = \_\_\_\_.**Use place value understanding and properties of operations to add and subtract.** 12. Add within 20, including adding a two-digit number and a one-digit number, 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, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.  [Add within 100, including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10, 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, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. [1-NBT4] | Students will:* use different strategies to add 1- and 2-digit numbers
* subtract a 1-digit from a 2-digit number without regrouping
* solve real-world problems

 **\*** This standard is not taught specifically in Math in Focus Chapter 8. Common Core requires students to be able to add three whole numbers in solving word problems.  *Example*: Tom has 5 blue marbles. His Dad gives him 3 red marbles and his friend Billy gives him 4 green marbles. How many marbles does Tom have now? |
| **Manipulatives/tools** | **Assessments** | **Suggested Pacing** |  |
| Connecting cubesCountersTen Frames (TR01)Spinner Bases (TR14)Puzzle Grids (TR15) | Ch. 8 Pre-Test (NOT GRADED)AMP: Ch. 8, Lessons 1-3 | 19 days |  |
| **Vocabulary:** Group, doubles fact, same, doubles plus one, true, false, equivalent | Teacher terminology:True/FalseEquivalent equations |
| **Supplementary Resources** | **Suggested Resources**  |
|  <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 2- Chapter 9

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| **CHAPTER 9-Length**  |
| **Chapter Summary:** This chapter focuses on measuring length.**Big Idea:** Compare the height and length of things. Measure with non-standard units to find length. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Measure lengths indirectly and by iterating length units.** 15. Order three objects by length; compare the lengths of two objects indirectly by using a third object. [1-MD1]\* 16. Express the length of an object as a whole number of length units by  laying multiple copies of a shorter object (the length unit) end to end;  understand that the length measurement of an object is the number  of same-size length units that span it with no gaps or overlaps. *Limit*  *to contexts where the object being measured is spanned by a whole*  *number of length units with no gaps or overlaps.* [1-MD2]\*\*Additional resources will be needed to teach these standards. Seehttp://alex.state.al.us/browseMath.php, click on 1st grade, scroll down to numbers 15 and 16, and click on the blue number next to Lesson Plans. | Students will:* compare two lengths using the terms tall/taller, long/longer, and short/shorter
* compare two lengths by comparing each with a third length
* compare more than two lengths using the terms tallest, longest, shortest
* measure lengths using non-standard units
* understand that using different non-standard units may give different measurements for the same item
* use the term “unit” to describe length
* count measurement units in a group of ten and ones
* use a common starting point when comparing lengths
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| **Manipulatives/tools** | **Assessments** | **Suggested Pacing** |  |
| Connecting cubesPaper clipsFish Cut-Outs (TR16)Strips of Paper (TR17)Strips for Measuring (TR18)Measurement Table (TR19)Craft sticksCrayonsScissorspaperlong umbrella | Ch. 9 Pre-Test (NOT GRADED)AMP: Ch. 9, Lessons 1-5 | 9 days |  |
| **Vocabulary:** Tall/taller/tallest; Short/shorter/shortest; Long/longer/longestAbout Unit | Teacher terminology:True/False |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math*Twelve Snails to One Lizard* by Susan Hightower |

Trimester 2-Chapter 10 –OMIT

 (This chapter does not include grade 1 Common Core/CC standards)

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| **CHAPTER 10-Weight** |
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| **Supplementary Resources** | **Suggested Resources**  |
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Trimester 2 - Chapter 11

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| **CHAPTER 11-Picture Graphs and Bar Graphs** |
| **Chapter Summary:** This chapter focuses on data displays-understanding picture and bar graphs.**Big Idea:** Count and compare numbers to 1,000. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Work with addition and subtraction equations.** 8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. [1-OA8] Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 11, 5 = - 3, and 6 + 6 = \_\_\_\_.**Represent and interpret data.** 18. Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. [1-MD4] | Students will:* collect and organize data
* show data as a picture graph
* draw picture graphs
* understand the data shown in picture graphs using symbols
* make a tally chart
* show data in a bar graph
* understand data shown in a bar graph
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| **Manipulatives/tools** | **Assessments** | **Suggested Pacing** |  |
| Number cubes, connecting cubes, Picture Graphs (TR23), Tally Chart (TR24), Tally Chart & bar graph (TR24), Weather Graph (TR25), bows, tape, coins | Ch. 11 Pre-Test (NOT GRADED)AMP: Ch. 11, Lessons 1-2AMP: Ch. 11, Lesson 3 | 8 days |  |
| **Vocabulary:** data, picture graph, more, most, fewer, fewest, tally mark, tally chart, bar graph | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 3- Chapter 12

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| **CHAPTER 12-Numbers to 40** |
| **Chapter Summary:** This chapter is about counting, comparing, and ordering numbers to 40.**Big Idea:** Count, compare, and order numbers from 1to 40. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Add and subtract within 20.** 5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). [1-OA5]**Work with addition and subtraction equations** 8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. [1-OA8] Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 11, 5 = - 3, and 6 + 6 = \_\_\_\_.**Extend the counting sequence.** 9. Count to 40, starting at any number less than 40. In this range, read and write numerals and represent a number of objects with a written numeral. [Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. [1-NBT1] **Understand place value** 10. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following special cases: [1-NBT2] a. 10 can be thought of as a bundle of ten ones, called a “ten.” [1- NBT2a] b. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. [1-NBT2b] c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). [1-NBT2c] 11. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <. [1-NBT3] | Students will:* count from 21 to 40
* read and write 21 to 40 in numbers and words
* use a place-value chart to show numbers up to 40
* show objects up to 40 as tens and ones
* use a strategy to compare numbers to 40
* compare numbers to 40
* order numbers to 40
* find the missing numbers in a number pattern
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| **Manipulatives/tools** | **Assessments** | **Suggested Pacing** |  |
| Connecting cubes, container, craft sticks, Place-Value Chart (TR13), rubber bands, Blank Counting Tape (TR20), scissors, tape | Ch. 12 Pre-Test (NOT GRADED)AMP: Ch. 12, Lessons 1-3 | 11 days |  |
| **Vocabulary:** number words *twenty-one* through *forty,* counting tape | Teacher terminology:True/False |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 3- Chapter 13 Lessons1, 2, 3 (pages 104-105), Lesson 5-6

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| **CHAPTER 13-Addition and Subtraction\* to 40** **Lessons 1, 2, 3 (Lesson 3-pages 104-105 only); OMIT LESSON 4, Subtraction with regrouping (NOT CC for Grade 1); Lessons 5-6** |
| **Chapter Summary:** This chapter focuses on adding and subtracting whole numbers to 40 with and without regrouping.**Big Idea:** Whole numbers can be added and subtracted with or without regrouping. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Represent and solve problems involving addition and subtraction.**1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See Appendix A, Table 1 in CCSS document.) [1-OA1] 2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, or equations with a symbol for the unknown number to represent the problem. [1-OA2]**Understand and apply properties of operations and the relationship between addition and subtraction.** 3. Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.) [1-OA3] Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known (Commutative Property of Addition). To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 =12 (Associative Property of Addition) 4. Understand subtraction as an unknown-addend problem. [1-OA4] Example: Subtract 10 – 8 by finding the number that makes 10 when added to 8.**Add and subtract within 20.** 5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). [1-OA5] 6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as 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 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). [1-OA6]**Work with addition and subtraction equations.** 7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. [1-OA7] Example: Which of the following equations are true and which are false: 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2? 8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. [1-OA8] Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 11, 5 = - 3, and 6 + 6 = \_\_\_\_.**Understand place value.** 10. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following special cases: [1-NBT2] a. 10 can be thought of as a bundle of ten ones, called a “ten.” [1- NBT2a] b. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. [1-NBT2b] c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). [1-NBT2c]**Use place value understanding and properties of operations to add and subtract.**12. Add within 40, including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10, 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, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.  [Add within 100, including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10, 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, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. [1-NBT4] 14. Subtract multiples of 10 in the range 10-40 from multiples of 10 in the range 10-40 (positive or zero differences), 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, and explain the reasoning used.  [Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), 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, and explain the reasoning used. [1-NBT6] | Students will:* add a 2-digit number and a 1-digit number without regrouping
* add two 2-digit numbers without regrouping
* add a 2-digit number and a 1-digit number with regrouping
* add two 2-digit numbers with regrouping
* subtract multiples of 10 in the range 10-40 from multiples of 10 in the range of 10-40
* add three 1-digit numbers
* solve real-world problems
* use related addition and subtraction facts to check the answers to real-world problems
* determine if number sentences involving addition and subtraction are true or false.
 |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Number Bonds (TR21), base ten blocks, counters, Place Value Chart (TR13), Blank Counting Tape (TR20), number cubes, green/red beans  | Ch. 13 Pre-Test (NOT GRADED)AMP: Ch. 13, Lessons 1 and 2AMP: Ch. 13, Lessons 3,(p.104-105), 5 and 6 | 17 days |  |
| **Vocabulary:** Count onPlace value chartRegroupCount backTrue/false | Teacher terminology:True/False |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 3- Chapters 14

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| **CHAPTER 14-Mental Math Strategies** |
| **Chapter Summary:** This chapter focuses on various mental strategies that students can use to solve problems.**Big Idea:** Number bonds help you to add and subtract mentally. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Represent and solve problems involving addition and subtraction.** 1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See Appendix A, Table 1 in CCSS document.) [1-OA1)**Understand and apply properties of operations and the relationship between addition and subtraction.** 3. Apply properties of operations as strategies to add and subtract. (Students need not use formal terms for these properties.) [1-OA3] Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known (Commutative Property of Addition). To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 =12 (Associative Property of Addition)**Add and subtract within 20.** 6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as 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 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). [1-OA6]**Work with addition and subtraction equations.** 7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. [1-OA7] Example: Which of the following equations are true and which are false: 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2? 8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. [1-OA8] Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 11, 5 = - 3, and 6 + 6 = .**Use place value understanding and properties of operations to add and subtract.** 12. Add within 40, including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10, 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, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.  [Add within 100, including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10, 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, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. [1-NBT4]1. Given a two-digit number, mentally find 10 more or 10 less than the number without having to count; explain the reasoning used. [1-NBT5]

 14. Subtract multiples of 10 in the range 10-40 from multiples of 10 in the range 10-40 (positive or zero differences), 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, and explain the reasoning  used.\* [Subtract multiples of 10 in the range 10-90 from multiples of 10 in the  range 10-90 (positive or zero differences), 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, and explain the reasoning  used. [1-NBT6]\*This standard is not included in Ch. 14, so additional activities will need to be used for teaching it. | Students will:* mentally add 1-digit numbers
* mentally add a 1-digit number to a 2-digit number
* mentally add a 2-digit number to tens
* mentally subtract 1-digit numbers
* mentally subtract a 1-digit number from a 2-digit number
* mentally find 10 more or 10 less than a given multiple of 10
 |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| CountersNumber Cards (TR26, TR27, TR29)Number Bonds (TR21)SpinnersScissorsTransparent spinnersSpinner Base (TR28) | Ch. 14 Pre-Test (NOT GRADED)AMP: Ch. 14, Lessons 1-2 | 7 days |  |
| **Vocabulary:** MentallyDoubles fact | Teacher terminology:True/False |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 3- Chapter 15

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| **CHAPTER 15-Calendar and Time (Lessons 2-3a Only); OMIT LESSON 1, Using a Calendar (NOT CC for Grade 1)** |
| **Chapter Summary:** In this chapter, students will measure the passage of time using clocks, both analog and digital, to show hour and half hour.**Common Core Big Idea:** Clocks are used to read the time of day. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Tell and write time.**17. Tell and write time in hours and half-hours using analog and digital clocks. [1-MD3] | Students will:* use the term “o’clock” to tell the time to the hour
* read and show time to the hour on a clock
* read and show time to the hour on a digital clock
* read time to the half hour
* use the term “half past”
* relate time to daily activities
* read and show time to the half hour on a digital clock
 |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Demonstration clock with movable handsClock Faces (TR31)Paper plate, fastener and hour/minute hands | Ch. 15 Pre-Test(NOT GRADED)AMP: Ch. 15, Lessons 2-3a |  10 days |  |
| **Vocabulary:** o’clock, minute hand, hour hand, half past, half hour | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 3- Chapter 16

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| **CHAPTER 16-Numbers to 120** |
| **Chapter Summary:** This chapter focuses on counting from 1 to 120, reading and writing numbers from 1 to 120 in numbers and words, and comparing and ordering numbers from 1 to 100.**Big Idea:** Count, compare, and order numbers from 1 to 100. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Add and subtract within 20.** 5. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). [1-OA5]**Extend the counting sequence.** 9. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. [1-NBT1] **Understand place value.** 10. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following special cases: [1-NBT2] a. 10 can be thought of as a bundle of ten ones, called a “ten.” [1- NBT2a] b. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. [1-NBT2b] c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). [1-NBT2c] 11. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.\* [1-NBT3]\*Symbols are not used in this chapter. Make sure that the students know the symbols.  | Students will:* count on from 41 to 100
* read and write 41 to 100 in numbers and words
* count on from 101 to 120
* read and write 101 to 120 in numbers and words
* use a place-value chart to show numbers up to 100
* show objects up to 100 as tens and ones
* use a strategy to compare numbers to 100
* compare numbers to 100
* order numbers to 100
* find the missing numbers in a number pattern
* compare numbers to 100 using the symbols >, <, and =
 |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Tens rods/ones units, craft sticksrubber bands, base ten blocks, Number Lines (TR33), blank number lines (TR34) transparent spinners, Spinner Bases (TR35 &TR36), Place Value Chart (TR13),100 Chart (TR 32), chart/number line showing numbers to 120 | Ch. 16 Pre-Test(NOT GRADED)AMP: Ch. 16, Lessons 1-3a | 15 days |  |
| **Vocabulary:** FiftySixtySeventyEightyNinetyOne hundredEstimateNumber linegreater than (>)less than (<) | Teacher terminology:True/False |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 3- Chapter 17 Lessons 1-2 and Lesson 3 (pages 224-225)

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| **CHAPTER 17-Addition and Subtraction\* to 100****Lessons 1-2; Lesson 3 (pages 224-225 only); OMIT LESSON 4, Subtraction with regrouping (NOT CC for Grade 1)** |
| **Chapter Summary:** This chapter focuses on adding and subtracting numbers within 100 using several strategies (counting on/back and using place-value charts).**Big Idea:** Numbers to 100 can be added and subtracted with and without regrouping. |
| **CC Standards and Clusters** | **Learning Outcomes**  |
| **Understand and apply properties or operations and the relationship between addition and subtraction.** 4. Understand subtraction as an unknown-addend problem. [1-OA4] Example: Subtract 10 – 8 by finding the number that makes 10 when added to 8**Work with addition and subtraction equations.** 7. Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. [1-OA7] Example: Which of the following equations are true and which are false: 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2? 8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. [1-OA8] Example: Determine the unknown number that makes the equation true in each of the equations, 8 + ? = 11, 5 = - 3, and 6 + 6 = .**Understand place value.** 10. Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following special cases: [1-NBT2] a. 10 can be thought of as a bundle of ten ones, called a “ten.” [1- NBT2a] b. The numbers from 11-19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. [1-NBT2b] c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). [1-NBT2c]**Use place value understanding and properties of operations to add and subtract.** 12. Add within 100, including adding a two-digit number and a one-digit number and adding a two-digit number and a multiple of 10, 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, and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. [1-NBT4] 14. Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), 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, and explain the reasoning used. [1-NBT6] | Students will:* add a 2-digit number and a 1-digit number without regrouping
* add two 2-digit numbers without regrouping
* add a 2-digit number and a 1-digit number with regrouping
* add two 2-digit numbers withregrouping
* subtract multiples of 10 in the range 10-90 from multiples of 10 in the range of 10-90
* determine if number sentences involving addition and subtraction are true or false.
 |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
| Hundred Chart (TR32), transparent spinner, base ten blocks, Spinner Base (TR37), counters, number cubes | Ch. 17 Pre-Test(NOT GRADED)AMP: Ch. 17, Lessons 1-3 (p. 224-225)AMP: Addition and Subtraction | 19 days |  |
| **Vocabulary:** regroup, count on/count back, place value, place value chart, true/false | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
| <https://www-k6.thinkcentral.com>http://alex.state.al.us/ | *Everyday Counts* Calendar Math |

Trimester 3 Chapter 18

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| **CHAPTER 18-Multiplication and Division- OMIT-NOT CC for 1st Grade** |
| Chapter Summary: |
| **Instructional Objectives** | **Learning Outcomes**  |
|  |  |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
|  |  |  |  |
| **Vocabulary:** | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
|  |  |

Trimester 3-Chapter 19

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| **CHAPTER 19-Money- OMIT-NOT CC for 1st Grade** |
| Chapter Summary: |
| **Instructional Objectives** | **Learning Outcomes**  |
|  |  |
| **Manipulatives/tools** | **Assessment** | **Suggested Pacing** |  |
|  |  |  |  |
| **Vocabulary:**  | Teacher terminology: |
| **Supplementary Resources** | **Suggested Resources**  |
|  |  |

Assessments:

* Math in Focus Assessments
* Projects and Daily Work
* Math “Snapshots” Weekly Assessments
* Measuring UP Live Online Assessments

Vertical Progression of K-8 Operations Common Core State Standards for Mathematics

**IMPORTANT Note: The operations included below are culminating operations. The CCSS require important prerequisite work at levels of cognitive demand not noted below. The purpose of this overview is a general, at-a-glance document that can be used as comparison when making judgments about content shifts for operations among grade levels in the CCSS versus the SC 2007 Academic Standards for Mathematics.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Addition**  | **Subtraction**  | **Multiplication**  | **Division**  |
| **Kindergarten** * Solve word problems requiring addition within 10 using objects, drawings and acting out
* Fluently add within 5
 | **Kindergarten** • Subtract within 10 using objects, drawings and acting out  |  |  |
| **First Grade** * Add within 100 using a two-digit number and a one-digit number, and add a two-digit number and a multiple of 10
* Solve word problems requiring three whole numbers whose sum is not greater than 20.
* Use symbols for the unknown number when making 10
* Fluently add within 10
 | **First Grade** * Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90
* Solve word problems within 20
* Fluently subtract within 10
 |  |  |
| **Second Grade** * Use addition within 100 to solve one- and two- step word problems
* Add within 1000, using concrete models or drawings
* Add up to 4 two-digit numbers
* Know from memory all sums of two one-digit numbers.
* Fluently add within 100
 | **Second Grade** * Use subtraction within 100 to solve one- and two-step word problems
* Subtract within 1000, using concrete models or drawings
* Fluently subtract within 100
 |  |  |
| **Third Grade** • Fluently add within 1000  | **Third Grade** • Fluently subtract within 1000  | **Third Grade** * Know from memory all products of two one- digit numbers
* Use multiplication within 100 to solve word problems
* Fluently multiply and divide within 100
 | **Third Grade** * Use division within 100 to solve word problems
* Fluently divide within 100
 |
| **Fourth Grade** * Solve multi-step word problems posed with whole numbers and having whole-number answers
* Fluently add multi-digit whole numbers

**Fractions** • Add mixed numbers with like denominators  | **Fourth Grade** * Solve multi-step word problems posed with whole numbers and having whole-number answers
* Fluently subtract multi- digit whole numbers

**Fractions** Subtract mixed numbers with like denominators  | **Fourth Grade** * Solve multi-step word problems posed with whole numbers and having whole-number answers
* Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two- digit numbers

**Fractions** • Multiply a fraction by a whole number  | **Fourth Grade** * Solve multi-step word problems posed with whole numbers and having whole-number answers
* Find whole-number quotients and

remainders with up to four-digit dividends and one-digit divisors  |
| **Addition**  | **Subtraction**  | **Multiplication**  | **Division pg 2**  |
| **Fifth Grade** **Fractions** • Add fractions with unlike denominators (including mixed numbers) **Decimals** • Add decimals to hundredths  | **Fifth Grade** **Fractions** • Subtract fractions with unlike denominators (including mixed numbers) **Decimals** • Subtract decimals to hundredths  | **Fifth Grade** • Fluently multiply multi- digit whole numbers **Fractions** • Solve real world problems involving multiplication of fractions and mixed numbers **Decimals** * Explain patterns in the placement of the decimal point when a decimal is multiplied by a power of 10
* Multiply decimals to hundredths
 | **Fifth Grade** • Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors **Fractions** • Divide unit fractions by whole numbers and whole numbers by unit fractions **Decimals** * Explain patterns in the placement of the decimal point when a decimal is divided by a power of 10
* Divide decimals to hundredths
 |
| **Sixth Grade** **Decimals** • Fluently add multi-digit decimals **Expressions, Equations & Inequalities** * Reason about and solve

one-variable equations and inequalities. * Represent and analyze

quantitative relationships between dependent and independent variables. * Solve real-world and mathematical problems by writing and solving equations of the form *x + p = q* and *px = q* for cases in which *p, q* and *x* are all nonnegative rational numbers
* Write an inequality of the form *x > c or x < c* to represent a constraint or condition in a real- world or mathematical problem
* Represent solutions of inequalities on number line diagrams
 | **Sixth Grade** **Decimals** • Fluently subtract multi- digit decimals **Expressions, Equations & Inequalities** • Same as “Addition” Column  | **Sixth Grade** **Decimals** • Fluently multiply multi- digit decimals **Expressions, Equations & Inequalities** • Same as “Addition” Column  | **Sixth Grade** • Fluently divide multi- digit numbers **Fractions** • Divide fractions by fractions **Decimals** • Fluently divide multi- digit decimals **Expressions, Equations & Inequalities** • Same as “Addition” Column  |
| **Addition**  | **Subtraction**  | **Multiplication**  | **Division pg 3**  |
| **Seventh Grade**  | **Seventh Grade**  | **Seventh Grade**  | **Seventh Grade**  |

|  |  |  |  |
| --- | --- | --- | --- |
| * Add rational numbers
* Add and expand linear

expressions with rational coefficients * Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units
* Use proportional relationships to solve multi-step ratio and percent problems
* Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals)
* Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities
 | * Subtract rational numbers
* Subtract and expand linear expressions with rational coefficients
 | * Multiply rational numbers
* Factor and expand linear expressions with rational coefficients
 | • Divide rational numbers • Convert a rational number to a decimal using long division  |
| **Eighth Grade**  | **Eighth Grade**  | **Eighth Grade**  | **Eighth Grade**  |
| * Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used
* Evaluate square roots of small perfect squares and cube roots of small perfect cubes
* Solve linear equations in one variable
* Analyze and solve pairs of simultaneous linear equations
* Use functions to model relationships between quantities Not an “Operation” in the strictest sense but worthy of inclusion
 | • Same as “Addition” Column  | • Same as “Addition” Column  | • Same as “Addition” Column  |