Alpena Montmorency Alcona Educational School District
02 Pacing Guide

Unit 1: Addition and Subtraction Within 20
25-29 Days

Math Background:

- Research - TE p1T-1U
- Background - TE p1V-1UU
- Learning Community - TE p1VV-1XX

Learning Path:

- **Children work toward building fluency with addition and subtraction within 10.**
- **Children work toward mastering all addition and subtraction word problem subtypes.**

Progressions:

Last year, my students...	In my class, students will...	Next year, my students will...

• used Level 2 (Counting On) and Level 3 (Convert to an Easier Problem) methods for addition and subtraction.
• worked with all addition and subtraction problem subtypes but not to mastery.
  ◦ Add To (Start Unknown)
  ◦ Take From (Start Unknown)
  ◦ Compare with Bigger Unknown using “fewer” language
  ◦ Compare with Smaller Unknown using “more” language
	• become fluent in single-digit additions and the related subtractions using the mental Level 2 and Level 3 strategies as needed.
	• master all addition and subtraction problem subtypes and solve one-step and two-step problems.
		• solve two-step problems involving all four operations.

Big Idea 1: Strategies for Addition and Subtraction

- About 12 days. Suggested date of completion:
- Daily Routine: Money Routine (30 min/day)

Vocabulary: addends, addition doubles, dime, doubles minus one, doubles minus two, doubles plus one, doubles plus two, equal sign (=), equation, equation chain, even, is equal to (=), is not equal to (≠), Make-a-Ten strategy, Math Mountain, odd, pairs, partners, pattern, penny, subtraction doubles, total, unknown addend, vertical form

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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.	CC.K-12.MP.1: Make sense of problems and persevere in solving them.
CC.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.	CC.K-12.MP.2: Reason abstractly and quantitatively.
CC.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.	CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others.
CC.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.	CC.K-12.MP.4: Model with math.
CC.2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.	CC.K-12.MP.5: Use appropriate tools strategically.
CC.2.NBT.9: Explain why addition and subtraction strategies work, using place value and the properties of operations.	CC.K-12.MP.6: Attend to precision.
	CC.K-12.MP.7: Look for and make use of structure.
	CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
1.1 TE p1-10	**I can** ● review the relationship between addition and subtraction equations, Math Mountains, and word problems. **Formative Assessment:** Ask children to draw one Math Mountain with the three numbers filled in. Children then explain how the Math Mountain shows both addition and subtraction.	OA.1 OA.2 NBT.9 MP.2 MP.3 MP.6 MP.7	SAB p3 (E) SAB p4 (E) SAB p5 (E) HW p1 (NE)	
	Lesson 1.1 Notes			
1.2 TE p11-16	**I can** ● find teen Math Mountains and relate to addition problems with two unknown addends. ● practice addition and subtraction with totals less than or equal to 10. **Formative Assessment:** Ask each child to draw a Math Mountain and write one addition and two subtraction equations for that Math Mountain.	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6 MP.7 MP.8	HW p3 (NE)	
	Lesson 1.2 Notes			
1.3 TE p17-22	**I can** ● use the Make-a-Ten strategy to add single-digit addends. **Formative Assessment:**	OA.1 NBT.9 MP.3 MP.5	SAB p13 (E) HW p5 (NE)	

	Ask children to describe the Make-a-Ten strategy using the example 7 + 5. Some children may describe how they mentally use the method; others may use Dime Strips and pennies, fingers, or drawings to help them describe the method.	MP.6		
	Lesson 1.3 Notes			
1.4 TE p23-36	**I can** ● make a ten to solve unknown addend and subtraction word problems. **Formative Assessment:** Have children explain how to use the Make a Ten strategy to find the unknown addend in the equation 8 + __ = 13	OA.1 OA.2 MP.1 MP.3 MP.5 MP.6	SAB p15 (E) SAB p16 (E) HW p7 (NE)	
	Lesson 1.4 Notes			
1.5 TE p31-36	**I can** ● practice solving addition, subtraction, and unknown addend equations with teen totals. **Formative Assessment:** Ask children to explain how unknown addend equation and subtraction equations are the same. Children's answers should show understanding that for both equation, you need to find an unknown addend (an unknown partner).	OA.2 MP.2 MP.3 MP.6 MP.7	HW p9 (NE)	
	Lesson 1.5 Notes			

1.6 TE p37-46	**I can** ● identify numbers as odd or even. **Formative Assessment:** Ask children to describe two methods for deciding whether the number 6 is even or odd. Children can choose any methods to show that 6 is an even number. They may choose to count by 2s to 6, to make three pairs or two equal groups of 3, or to write the addition double 3 + 3 = 6.	OA.3 MP.1 MP.3 MP.6 MP.7	SAB p17 (E) SAB p18 (E) SAB p19 (E) SAB p20 (E) HW p11 (NE)	
	Lesson 1.6 Notes			
1.7 TE p47-54	**I can** ● find totals using the Doubles Plus/Minus 1 or the Doubles Plus/Minus 2. **Formative Assessment:** Ask children to describe two ways of using doubles to add 8 + 6. Children should recognize that they can use the doubles minus 2 strategy.	OA.2 OA.3 MP.1 MP.2 MP.3 MP.6	SAB p21 (E) SAB p22 (E) HW p13 (NE)	
	Lesson 1.7 Notes			
1.8 TE p55-62	**I can** ● write equations and equation chains and use vertical form for addition and subtraction. **Formative Assessment:** Ask children to write 7 + 5 = __ in vertical form and then find the total.	OA.2 MP.2 MP.3 MP.6	SAB p23 (E) SAB p24 (E) HW p15 (NE)	
	Lesson 1.8 Notes			

1.9 TE p63-70	**I can** ● add three or four 1-digit addends using strategies based on properties of addition. **Formative Assessment:** Ask children to explain how they found one of the sum on Student Activity Book page 28. Then ask them to tell a different way to find the sum.	OA.2 NBT.5 NBT.6 NBT.9 MP.1 MP.2 MP.3 MP.6 MP.7	SAB p27 (E) SAB p28 (E) HW p17 (NE)	
	Lesson 1.9 Notes			
Quiz 1			AG p14 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 2: Addition and Subtraction Situations

- About 12 days. Suggested date of completion:
- Daily Routine: Money Routine (30 min/day)

Vocabulary: *Add To* problem, *Compare* word problem, comparison bars, fewer, matching drawing, more, *Put Together* problem, situation equation, solution equation, *Take Apart* problem, *Take From* problem,

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Lesson	Focus	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
1.10 TE p71-76	**I can** ● represent and solve *Add To* and *Take From* word problems. **Formative Assessment:** Ask children to choose a word problem from one of the Student Activity Book pages and explain how their drawing matches the problem.	OA.1 OA.2 MP.1 MP.2 MP.3 MP.4 MP.6	SAB p31 (E) SAB p32 (E) HW p19 (NE)	
	Lesson 1.10 Notes			
1.11 TE p77-84	**I can** ● create and solve *Add To* and *Take From* word problems - unknown in all six positions. **Formative Assessment:** Ask children to explain how they represented he problem situation in Problem 4.	OA.1 OA.2 MP.1 MP.2 MP.3 MP.4 MP.6	SAB p33 (E) SAB p34 (E) HW p21 (NE)	
	Lesson 1.11 Notes			
1.12 TE p85-90	**I can** ● introduce and solve *Put Together/Take Apart* problems. **Formative Assessment:** Ask children to draw Math Mountains to	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6	SAB p35 (E) SAB p36 (E) HW p23 (NE)	

	represent Problems 5 and 6. Have them compare and contrast the two Math Mountains. Children should see that both problems involve two parts and a total. The first problem involves and unknown part or addend, and the second problem involves an unknown total.			
	Lesson 1.12 Notes			
1.13 TE p91-98	**I can** ● solve *Put Together/Take Apart* problems that involve the use of group names and/or have both addends unknown. **Formative Assessment:** Ask children to group items from the classroom and name the group.	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6 MP.7	SAB p37 (E) SAB p38 (E) HW p25 (NE)	
	Lesson 1.13 Notes			
1.14 TE p99-104	**I can** ● represent and solve *Compare* word problems. **Formative Assessment:** Ask children to choose a problem from Student Activity Book page 40 and describe how comparison bars can be used to represent the problem.	OA.1 OA.2 MP.2 MP.3 MP.6	SAB p39 (E) SAB p40 (E) HW p27 (NE)	
	Lesson 1.14 Notes			

1.15 TE p105-110	**I can** ● create, paraphrase, and solve *Compare* word problems. **Formative Assessment:** Ask children to choose a word problem from Student Activity Book page 41 and tell how comparison bars can be used to show the information in the problem.	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6	SAB p41 (E) SAB p42 (E) HW p29 (NE)	
	Lesson 1.15 Notes			
1.16 TE p111-116	**I can** ● solve mixed word problems and use *make-a-ten* strategy to find totals. **Formative Assessment:** Children choose a word problem from Student Activity Book page 44. They explain how the drawing and the equation represent the problem.	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6	HW p31 (NE)	
Quiz 2			AG p15 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 3: More Complex Situations

- About 7 days. Suggested date of completion:
- Daily Routine: Money Routine (30 min/day)

Vocabulary (CCSS-M): extra information, hidden information, pattern

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Lesson	Focus	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
1.17 TE 9117-126	**I can** ● discuss and solve problems with hidden, not enough, or extra information. **Formative Assessment:** Ask children: If a problem has extra information will everyone still get the same answer? If a problem has missing information, will everyone still get the same answer? If a problem has hidden information, will everyone still get the same answer?	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6 MP.7	SAB p49 (E) SAB p50 (E) SAB p51 (E) SAB p52 (E) HW p33 (NE)	
	Lesson 1.17 Notes			
1.18 TE p127-132	**I can** ● represent and solve more complex *Compare* problems. **Formative Assessment:** Ask children to explain how stating the comparison both way is helpful when solving *Compare* problems.	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6 MP.7	SAB p53 (E) SAB p54 (E) HW p35 (NE)	
	Lesson 1.18 Notes			

1.19 TE p133-140	**I can** ● solve two-step word problems. **Formative Assessment:** Ask children to explain what we mean by the hidden or first-step question in a two-step word problem.	OA.1 OA.2 MP.1 MP.3 MP.4 MP.6 MP.7	SAB p55 (E) SAB p56 (E) SAB p57 (E) SAB p58 (E) HW p37 (NE)	
	Lesson 1.19 Notes			
1.20 TE p141-146	**I can** ● solve mixed word problems. **Formative Assessment:** Ask children to choose a problem from Student Activity Book pages 59 and 60 and explain how they solved the problem.	OA.1 OA.2 MP.1 MP.3 MP.4 MP.5 MP.6	SAB p59 (E) SAB p60 (E) HW p39 (NE)	
	Lesson 1.20 Notes			
1.21 TE p147-152	Math Practices	OA.1 OA.2 OA.3 MP.1-8	SAB p65 (E) SAB p66 (E) HW p41 (NE)	
	Lesson 1.21 Notes			

Quiz 3			AG p16 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Unit 1: Enrichment/Intervention Loop

- About 3-5 days. Suggested date of completion:

Unit Test Objectives

- 1A Fluently add and subtract within 20.
- 1B Determine whether a group of objects (up to 20) has an odd or even number of members and write an equation to express an even number as the sum of two equal addends.
- 1C Add three or four 1-digit addends.
- 1D Use addition and subtraction within 20 to solve one- and two-step word problems.

Day 1: Final Formative Assessment - SAB p67-70

Day 2-4: Reteaching Activities – TE p154-158

Day 5: Assessment - Unit 1 Test AG p21-24

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Unit 2: Addition Within 200
26-28 Days

Math Background:

- Research - TE p159QT-159R
- Background - TE p159S-159JJ

Learning Path:

- **Children work with:**
  - place value.
  - representing numbers in different ways.
  - comparing numbers.
  - adding two, three, or four 2-digit numbers , sometimes resulting in new tens or new hundreds with sums to 200.
- **Children use visual models and real world situation to understand:**
  - the value of 2- and 3-digit numbers.
  - how to find the sum of 2-digit numbers.

Big Idea 1: Use Place Value

- About 7 days. Suggested date of completion:
- Daily Routine: Comparing 2-Digit Numbers and Money Routine (30 min/day)

Vocabulary: decade numbers, expanded form, hundreds, is equal to (=), is greater than (>), is less than (<), number name, ones, Quick Hundreds, Quick Tens, tens

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CC.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. **CC.2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations.	

Lesson	Learning Target	CCSM And SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
2.1	**I can** ● represent numbers to 200 and identify patterns involving place value. **Formative Assessment:** Ask children to describe the number 106 in two different ways. Children's explanations should include two of the following descriptions: 106 is 1 hundred and 6 extra ones, 10 tens ad 6 extra one, 106 ones, or 1 hundred, 0 tens, and 6 ones. Children may choose to support their descriptions with drawings.	OA.1 OA.2 NBT.1 NBT.1a NBT.2 NBT.3 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7	SAB p73 (E) SAB p74 (E) HW p43 (NE)	
2.2	**I can** ● represent numbers to 200 in different ways. **Formative Assessment:** Ask children to describe the methods they have used to represent numbers.	OA.1 OA.2 NBT.1 NBT.1a NBT.2 NBT.3 NBT.5 NBT.9 MP.3 MP.5 MP.6 MP.7	SAB p77 (E) SAB p78 (E) HW p45 (NE)	
2.3	**I can** ● represent numbers using base ten numerals, expanded form, and number names. **Formative Assessment:** Ask children to explain how to represent the number 132 in expanded form. Children's	NBT.1 NBT.1a NBT.2 NBT.3 MP.1 MP.2 MP.3	SAB p79 (E) SAB p80 (E) HW p47 (NE)	

	answers should indicate understanding that expanded form is an expression in which the values of each digit in a number are added together.	MP.5 MP.6 MP.7		
2.4	**I can** ● solve ten-based word problems. ● add 10 or 100 to a given number. **Formative Assessment:** Ask children to explain how to find the total for 58 + 10. Children's explanations should reflect understanding that they need to increase the value of 58 by 1 ten.	NBT.1 NBT.1a NBT.3 NBT.5 NBT/7 NBT.8 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7	SAB p81 (E) SAB p82 (E) HW p49 (NE)	
2.5	**I can** ● compare two numbers using >, <, or = symbols. **Formative Assessment:** Ask children how to explain 128 ○ 123. Children's answers should indicate that they first compare the hundreds, then the tens, and then they one.	NBT.1 NBT.3 NBT.4 MP.1 MP.2 MP.3 MP.5 MP.6 MP.8	SAB p83 (E) SAB p84 (E) HW p51 (NE)	
Quiz 1			AG p30 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 2: Add 2-digit Numbers

- About 8 days. Suggested date of completion:
- Daily Routine: Comparing 2-Digit Numbers and Money Routine (30 min/day)

Vocabulary (CCSS-M): error, New Groups Above method, New Groups Below method, Show All Totals method, sum,

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Lesson	Learning Target	CCSM And SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
2.6	**I can** ● explore methods of 2-digit addition that involve making a new ten or hundred. **Formative Assessment:** Ask children to explain how they would add 67 + 41. Children's explanations should include use of proof drawings and numeric method, and should address that a new hundred will be made.	NBT.1 NBT.1a NBT.6 NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.6 MP.7	SAB p87 (E) SAB p88 (E) HW p53 (NE)	
2.7	**I can** ● apply addition concepts and strategies to real world situations, and solve 2-digit addition problems. **Formative Assessment:** Ask children to describe how to Show All Totals method could be used to add 82 + 45. Children's descriptions should include grouping 10 tens to make a hundred.	OA.1 NBT.1 NBT.1a NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.6	SAB p89 (E) SAB p90 (E) HW p55 (NE)	
2.8	**I can** ● solve 2-digit addition exercises using the New Groups Below method. **Formative Assessment:** Ask children to explain how to add 25 + 75 using the New Groups Below method. Children's explanations should mention keeping the places aligned and recording the new ten or new hundred in the proper columns, below the addends.	NBT.1 NBT.1a NBT.6 NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.5 MP.6	HW p57 (NE)	

2.9	**I can** ● choose a method to solve 2-digit addition exercises. **Formative Assessment:** Ask children to choose and describe a method they would use to find the sum of 76 + 25. Children' explanations should indicate that a new ten and a new hundred are made.	NBT.1 NBT.1a NBT.6 NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.6	SAB p91 (E) SAB p92 (E) HW p59 (NE)	
2.10	**I can** ● compare various solution methods for 2-digit addition. **Formative Assessment:** Ask children to choose one of the exercises from this lesson and explain the method they used to find the sum.	NBT.1 NBT.1a NBT.6 NBT.7 NBT.9 MP.3 MP.6 MP.7 MP.8	SAB p93 (E) SAB p94 (E) HW p61 (NE)	
Quiz 2			AG p31 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 3: Money and Fluency for Addition Within 100

- About 8 days. Suggested date of completion:
- Daily Routine: Comparing 2-Digit Numbers and Money Routine (30 min/day)

Vocabulary: cent symbol (¢), decimal point (.), dime, dollar, dollar symbol ($), nickel, penny, skip count

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CC.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.	CC.K-12.MP.2: Reason abstractly and quantitatively.
CC.2.NBT.1a: 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 a special case: 100 can be thought of as a bundle of ten tens — called a “hundred.”	CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others.
CC.2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s.	
CC.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.	CC.K-12.MP.4: Model with math.
CC.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.	CC.K-12.MP.5: Use appropriate tools strategically.
CC.2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.	CC.K-12.MP.6: Attend to precision.
CC.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.	CC.K-12.MP.7: Look for and make use of structure.
CC.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?	CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
2.11	I can ● solve word problems involving dollar bills, dimes, and pennies, using $ and c. **Formative Assessment:** Ask children to explain how to find the sum of 67¢ and 45¢. Children's explanation should include trading 10 pennies for 1 dime and trading 10 dime for 1 dollar.	NBT.1 NBT.1a NBT.7 MD.8 MP.1 MP.2 MP.3 MP.4 MP.6 MP.7 MP.8	SAB p97 (E) SAB p98 (E) HW p63 (NE)	
2.12	I can ● skip count by 5s and find the values of collections of dimes, nickels, and pennies. **Formative Assessment:** Ask children to explain how to find the value of a collection of 4 dimes, 4 nickels, and 4 pennies.	NBT.2 MD.8 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7	SAB p99 (E) SAB p100 (E) SAB p101 (E) SAB p102 (E) HW p65 (NE)	
2.13	I can ● build fluency for addition within 100. **Formative Assessment:** Ask children how adding 26 + 32 is different from adding 26 + 38.	NBT.5 MP.1 MP.2 MP.3 MP.5 MP.6	SAB p103 (E) SAB p104 (E) SAB p105 (E) SAB p106 (E) HW p67 (NE	
2.14	I can ● add three or four 2-digit addends. **Formative Assessment:**	NBT.5 NBT.6 NBT.7	SAB p107 (E) SAB p108 (E) HW p61 (NE)	

	Ask children to describe two different ways to find the sum of 17 + 49 + 23.	MP.1 MP.2 MP.3 MP.4 MP.5 MP.6		
2.15	Mathematical Practices	OA.1 NBT.2 NBT.4 NBT.5 NBT.7 MD.8 MP.1-8	SAB p109 (E) SAB p110 (E) HW p63 (NE)	
Quiz 3			AG p32 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Unit 2: Enrichment/Intervention Loop

- About 3-5 days. Suggested date of completion:

Unit Test Objectives

- 2A Represent, read, and write numbers to 200 using pictures, base ten numerals, number names, and expanded form.
- 2B Compare two numbers within 200 using <, >, and = symbols.
- 2C Add two numbers with up to 2 digits, sums within 200.
- 2D Add three or four 2-digit addends, sums within 200.
- 2E Skip count by 5s.
- 2F Find the value of a group of dimes, nickels, and pennies, and write the value using $ and ¢ symbols.
- 2G Use addition within 200 and/or the values of pennies, nickels, and dimes to solve word problems.

Day 1: Final Formative Assessment - SAB p111-114

Day 2-4: Reteaching Activities – TE p

Day 5: Assessment - Unit 2 Test AG p37-40

Alpena Montmorency Alcona Educational School District
02 Pacing Guide

Unit 3: Length and Shapes
14-16 Days

Math Background:

- Research - TE p279O-279P
- Background - TE p279Q-279FF

Learning Path:

- **Children learn to:**
  - measure and estimate lengths**.**
  - relate addition and subtraction to length.
  - represent lengths on line plots.
  - reason with shapes and their attributes.

Big Idea 1: Length and Shapes

- About 6 days. Suggested date of completion:
- Daily Routine: Dimes, Nickels, and Pennies and Money Routine (10 min/day)

Vocabulary: 2-dimensional (2-D), 3-dimensional (3-D), angle, centimeter, cube, face, height, hexagon, horizontal, length, line segment, opposite sides, partner lengths, pentagon, quadrilateral, rectangle, rectangular prism, right angle, square, triangle, vertical, view, width

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.2.NBT.6:** Add up to four two-digit numbers using strategies based on place value and properties of operations. **CC.2.MD.1:** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. **CC.2.MD.3:** Estimate lengths using units of inches, feet, centimeters, and meters. **CC.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. **CC.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.	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
3.1	I can ● measure line segments. ● break apart centimeter lengths into partner lengths. **Formative Assessment:** Ask children to explain how to find how much longer a 10-cm length is than a 3-cm length.	OA.2 MD.1 MD.4 MP.1 MP.2 MP.3 MP.5 MP.6 MP.7 MP.8	SAB p117 (E) SAB p118 (E) SAB p119 (E) SAB p120 (E) HW p73 (NE)	Read: 279Y, 279Z Have kids notice that the number on ruler represents a longer line. Relate how a line that is one partner to a line of another partner make the total… a longer line. Lead the kids to see the pattern between centimeter marks and lengths – don't tell them (try not to put the answer in the question – give wait time).
3.2	I can ● describe properties of squares, rectangles, triangles, pentagons, and hexagons. **Formative Assessment:** Ask children to tell how pentagons and hexagons are alike and different.	OA.2 G.1 MD.4 MP.2 MP.3 MP.5 MP.6 MP.8	SAB p121 (E) SAB p122 (E) SAB p123 (E) SAB p124 (E) HW p75 (NE)	Read: 279Y, 279AA Focus on the attributes not on memorizing to describe shapes.
3.3	I can ● estimate and measure the sides and the distances around squares and rectangles. **Formative Assessment:** Ask children to explain how they estimate the length in centimeters of a side of a square.	OA.2 NBT.6 MD.1 MD.3 G.1 MP.1 MP.2 MP.3 MP.5 MP.6 MP.7	SAB p125 (E) SAB p126 (E) HW p77 (NE)	Read: 279Y, 27AA Stick to grade 2 CCSS. Perimeter is taught in grade 3. Use this lesson to measure and estimate lengths.

3.4	I can ● draw and name shapes with 3, 4, 5, or 6 angles and estimate and measure sides of triangles. **Formative Assessment:** Ask children to draw two triangles that look different but each have one side 3 cm long and another side 4 cm long.	OA.2 NBT.6 MD.1 MD.3 G.1 MP.3 MP.6 MP.7	SAB p127 (E) SAB p128 (E) HW p79 (NE)	Read: 279Y, 297AA-BB
3.5	I can ● understand how 2-dimensional and 3-dimensional shapes are related. ● draw rectangular prisms and cubes using faces. **Formative Assessment:** Ask children to choose one shape from SAB p132. Children should describe the shape based on the number of faces or sides.	G.1 MP.3 MP.5 MP.6 MP.7	SAB p129 (E) SAB p131 (E) SAB p132 (E) HW p81 (NE)	Read: 279Y, 279CC
Quiz 1			AG p46 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 2: Estimate, Measure, and Make Line Plots

- About 5 days. Suggested date of completion:
- Daily Routine: Dimes, Nickels, and Pennies and Money Routine (10 min/day)

Vocabulary: centimeter, decimeter, foot, inch, line plot, meter, yard

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.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. **CC.2.MD.1:** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. **CC.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. **CC.2.MD.3:** Estimate lengths using units of inches, feet, centimeters, and meters. **CC.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. **CC.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. **CC.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.	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
3.6	I can ● estimate and measure with centimeters and use a line plot to display measurement data. **Formative Assessment:** Ask children to tell one thing the class line plot shows.	NBT.4 MD.1 MD.3 MD.4 MD.9 MP.1 MP.3 MP.4 MP.5 MP.6 MP.7	SAB p135 (E) SAB p137 (E) SAB p138 (E) SAB p139 (E) SAB p140 (E) HW p83 (NE)	Read: 279Y, 279DD-279EE This lesson may take 2 Days! Collecting data
3.7	I can ● estimate and measure with inches, feet, and yards. ● show measurement data on a line plot. **Formative Assessment:** Ask children to tell whether a 20-inch piece of string is more or less than 20 centimeters long. Have them explain why.	MD.1 MD.2 MD.3 MD.9 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7 MP.8	SAB p141 (E) SAB p143 (E) SAB p144 (E) SAB p145 (E) SAB p147 (E) SAB p148 (E) HW p85 (NE)	Read: 279Y, 279SS-279EE Students start to notice that the number of inches is always less than the number of centimeters – but lesson 8 builds on this concept.
3.8	I can ● measure length and show the data on a line plot. ● determine the relationship between length and the size of the measurement unit. **Formative Assessment:** Ask children to tell if 9 feet is greater than or less than 9 yards and how they know.	MD.1 MD.2 MD.3 MD.9 MP.2 MP.3 MP.4 MP.5 MP.6	SAB p149 (E) SAB p150 (E) SAB p151 (E) SAB p152 (E) HW p87 (NE)	Read: 279Y, 279SS-279EE Really working to understand that it takes more of the smaller units to fill the same length – so the smaller units will always be greater than the number of larger units used to measure the same length.

		MP.7 MP.8		
3.9	Mathematical Practices	NBT.5 MD.1 MD.2 G.1 MP.1-8	SAB p153 (E) SAB p154 (E) HW p89 (NE)	Goal is for kids to understand the relationship – (not translate between inches and centimeters).
Quiz 2			AG p47 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Unit 3: Enrichment/Intervention Loop

- About 3-5 days. Suggested date of completion:

Unit Test Objectives

- 3A Estimate and then measure the length of an object using appropriate tools.
- 3B Measure the length of an object twice, in inches and centimeters, and describe how the measurements relate to the size of the units.
- 3C Measure to determine how much longer one object is than another.
- 3D Show measurement data on a line plot.
- 3E Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.
- 3F Draw shapes having a given number of sides, angles, or equal faces.

Day 1: Final Formative Assessment - SAB p155-158

Day 2-4: Reteaching Activities TE p

Day 5: Assessment - Unit 2 Test AG p48-51

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Unit 4: Subtract 2-Digit Numbers
29-31 Days

Math Background:

- Research - TE p351V-351W
- Background - TE p351X-351RR

Learning Path:

- **Children work toward:**
  - building fluency with money.
  - building fluency with subtraction.
  - mastering all addition and subtraction word problem subtypes.

Big Idea 1: Totals of Mixed Coins and Bills

- About 3 days. Suggested date of completion:
- Daily Routine: Estimating Units of Length and Money Routine (10 min/day)

Vocabulary (CCSS-M): quarters

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.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?	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
4.1	**I can** ● count by quarters, dimes, nickels, and pennies up to different totals. **Formative Assessment:** Ask children to explain how to show 53 cents using only quarters and pennies.	NBT.7 MD.8 MP.1 MP.2 MP.3 MP.5 MP.6 MP.7	SAB p161 (E) HW p91 (NE)	Read 351HH *support word problems involving money Give a lot of examples anytime you can to discuss the value of coins and combination of coins that have the same value Connect words, the actual coin and written digits and symbols and objects! (mp2)
4.2	I can ● find the value of a collection of dollar bills, quarters, dimes, nickels, and pennies. **Formative Assessment:** Ask children to explain how to find the value of 1 dollar bill, 2 quarters, 3 dimes, 2 nickels, and 1 penny.	NBT.7 MD.8 MP.1 MP.2 MP.3 MP.5 MP.6 MP.7	SAB p165 (E) SAB p166 (E) SAB p167 (E) SAB p168 (E) HW p93 (NE)	Read 351HH *support word problems involving money The tools are the dollars and coins – how to use them is the way you make different combinations Verbal and visual cues are VERY IMPORTANT – objects diagrams, drawings
Quiz 1			AG p61 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 2: Multidigit Subtraction Strategies (10 days)

- Daily Routine: Estimating Units of Length and Money Routine (10 min/day)

Vocabulary (CCSS-M): break apart, count on, difference, Expanded Method, ungroup, Ungroup First Method

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.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. **CC.2.NBT.1a:** 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 a special case: 100 can be thought of as a bundle of ten tens — called a "hundred." **CC.2.NBT.1b:** 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 a special case: 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).	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
4.3	**I can** ● find unknown addends, and use different methods to find addends for 100. **Formative Assessment:** Ask children to explain how to find the solution for 100 = 37 + ☐ Children's answers may vary, but children should be able to explain the steps they took.	OA.1 NBT.1a NBT.5 NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6	SAB p169 (E) SAB p170 (E) HW p95 (NE)	Read 351II-351JJ Use math understanding of the relationship between finding an unknown addend and subtracting (use **drawings** or other methods – lesson 5 is formal method) Place value language is big, have them connect the mountain to any method they prefer Ungroup-regroup! Connect real world meaning of money to 100 Go back to counting on to a single digit number if students struggle with this
4.4	I can ● use student-generated methods to solve subtraction word problems. ● decide when to ungroup and when not to ungroup. **Formative Assessment:** Ask children to write two subtraction exercises, one for which they need to ungroup a ten and one for which they do not.	OA.1 NBT.1a NBT.5 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.8	HW p97 (NE)	Read 351II-351JJ Use math understanding of the relationship between finding an unknown addend and subtracting (use drawings or other methods – lesson 5 is formal method) Drawing are important – start with ungrouping with 100 – then use same story but different number and connect meaning through the story

				If students are drawing both numbers explain how that worked for comparison method with smaller numbers – so show it with the larger number and then show how only drawing 1 number is way easier Place value language will make this lesson easier Having the kids figure out when they need to ungroup (using PV language) will give another connection to understanding Bring in the manipultives only if really stuck
4.5	I can ● solve 2-digit subtraction methods and apply those methods to subtracting from 200. **Formative Assessment:** Ask children to describe two different ways to solve 46 – 17 = ☐	OA.1 NBT.5 NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.6	SAB p173 (E) SAB p174 (E) HW p99 (NE)	Read 351KK-351LL Teacher Note 380!! Ungroup first and expanded are methods to build a foundation of and fluency in subtracting – because it is easier to explain the steps and why they ungroup the larger number 1st. – lessons 5,6,7,11,14!! Kids can find their own way of subtracting, but the methods provided work really well!! –its all about connecting the drawing to words Ungroup and group are used because these terms show how add and sub undo each other – most important is not the vocab, but more the understanding that 64 and 5tens and 4 ones are the same quantity… we like to use the same vocab to keep it consistent – but it needs to make sense to the kids you have.

4.6	I can ● solve subtraction word problems using a preferred method and explain the method used. **Formative Assessment:** Ask children to choose and use a method to solve 65 – 27 = ☐ Have children explain their method's advantages.	NBT.5 NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.6	SAB p175 (E) SAB p176 (E) HW p101 (NE)	Read 351KK-351LL Listen for how kids explain why they like one method over another – this will let you know if they "get it" or not Careful to not give the answer in the question for discussing the methods Teaching note 391
4.7	I can ● review 2-digit subtraction methods and apply those methods to subtracting from 200. **Formative Assessment:** Ask children to compare ungrouping 200 when using the Expanded Method and when using the Ungroup First Method.	NBT.1 NBT.1a NBT.1b NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6 MP.7	SAB p177 (E) SAB p178 (E) HW p103 (NE)	Read 351KK-351LL Listen again for their reasoning as they compare working within 200
4.8	I can ● decide when to ungroup in subtraction and subtract a 2-digit number from any number less than or equal to 200. **Formative Assessment:** Ask children to explain the differences between ungrouping	NBT.1 NBT.1a NBT.7 NBT.9 MP.1 MP.2	SAB p179 (E) SAB p180 (E) HW p105 (NE)	Read 351MM-351OO Going deeper into subtraction – work with zero, money Lessons 8,9,10,13,15 Ungroup first – get correct answer no matter which direction the ungrouping happens (its all about the

	from the right and from the left.	MP.3 MP.5 MP.6 MP.8		top number!) Becoming fluent with 2-digit numbers add/sub – when using 3 digit numbers drawings and materials will help with reasoning and explaining Teaching note 405
4.9	I can ● subtract 2-digit numbers from numbers with a zero in the tens or ones place. **Formative Assessment:** Ask children to explain how ungrouping from the right and ungrouping from the left are different when solving 120-63 = ☐	NBT.1 NBT.1a NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.5 MP.6	SAB p181 (E) SAB p182 (E) HW p107 (NE)	Read 351MM-351OO Ungroup first for zeros – and proof drawings!! Emphasize importance of working with 108 as a whole! – drawings are HUGE!! Do the same with money! Connect symbols and words by using story problems that kids come up with
4.10	I can ● relate ungrouping hundreds and tens in subtraction to ungrouping dollars and dimes. **Formative Assessment:** Ask children to explain how to ungroup $1.56 to pay for an item that costs 88¢.	NBT.1 NBT.1a NBT.7 NBT.9 MD.8 MP.1 MP.2 MP.3	SAB p183 (E) SAB p184 (E) HW p109 (NE)	Read 351MM-351OOhelp them practice ungrouping (not wrong to use quarters and nickels but this is to practice 0's) Only use pennies, dimes and dollars to

		MP.4 MP.6		
4.11	I can ● build fluency for subtraction within 100. **Formative Assessment:** Ask children how subtracting 78 – 25 is different from subtracting 78 – 29.	NBT.5 MP.1 MP.2 MP.3 MP.5 MP.6	SAB p185 (E) SAB p186 (E) SAB p187 (E) SAB p188 (E) HW p111 (NE)	Read 351KK-351LL Use a separate piece of paper if not enough room for the drawings Let kids stay with drawing if they still need it
Quiz 2			AG p62 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 3: Word Problems: Addition and Subtraction Within 100

- About 13 days. Suggested date of completion:
- Daily Routine: Estimating Units of Length and Money Routine (10 min/day)

Vocabulary (CCSS-M): Adding Up Method, Change Unknown, Start Unknown

Common Core State Standards for Math [CCSS-M]	Common Core Standards of Mathematical Practices [SMPs]
CC.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. **CC.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. **CC.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. **CC.2.NBT.1a:** 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 a special case: 100 can be thought of as a bundle of ten tens — called a "hundred." **CC.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. **CC.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. **CC.2.NBT.6:** Add up to four two-digit numbers using strategies based on place value and properties of operations. **CC.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. **CC.2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations. **CC.2.MD.1:** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. **CC.2.MD.3:** Estimate lengths using units of inches, feet, centimeters, and meters. **CC.2.MD.4:** Measure to determine how much longer one object is than another, expressing the	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

length difference in terms of a standard length unit. **CC.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. **CC.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?	

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
4.12	**I can** ● compare addition and subtraction methods. ● use addition and subtraction to solve word problems. **Formative Assessment:** Ask children to explain how drawing a Math Mountain can help them decide whether to add or subtract to solve a word problem.	OA.1 NBT.1 NBT.1a NBT.5 NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.4 MP.6	SAB p189 (E) SAB p190 (E) HW p113 (NE)	Read 351PP-351QQ Building on the concept- kids need to connect relationship between grouping to add and ungroup to subtract – math mountains help this Precision – must be using place value language to explain
4.13	**I can** ● generate eight equations from a Math Mountain and practice solving different types of word problems. **Formative Assessment:** Write 45 and 100 on the board, and have children draw and complete a Math Mountain with 100 at the top and 45 at the bottom.	OA.1 OA.2 NBT.5 NBT.7 MP.1 MP.2 MP.3 MP.4 MP.6 MP.7 MP.8	SAB p191 (E) SAB p192 (E) HW p115 (NE)	Read 351MM-351OO Use math mountains to connect addends to the sum or total – this is how they worked with single digit numbers to find equations Understanding teen numbers will help with this connection Understanding the mountain as sub or add with an unknown is going to help with word problems Read 436!
4.14	**I can** ● practice addition and subtraction within 100 and use those skills to solve word problems.	OA.1 NBT.1 NBT.1a NBT.5 NBT.9	SAB p193 (E) SAB p194 (E) HW p117 (NE)	Read 351KK-351LL and 351PP-351QQ You are building concepts here – explaining one step at a time and talk about them!

	Formative Assessment: Have children explain how to use a Math Mountain to help decide whether to add or subtract to solve a word problem.	MP.1 MP.3 MP.6		
4.15	**I can** ● add up to calculate change from one dollar. **Formative Assessment:** Have children explain how to use the Adding Up Method to subtract 68¢ from $1.00.	NBT.2 NBT.5 NBT.6 NBT.7 NBT.9 MD.8 MP.2 MP.3 MP.6	SAB p195 (E) SAB p196 (E) HW p119 (NE)	Read 351MM-351OO Use counting on to develop adding up method to find the unknown addend or a difference – chunking numbers (like we do in reading!!) 448!! read
4.16	**I can** ● add up to solve unknown addend word problems. **Formative Assessment:** Ask children to explain how they used the Adding Up Method to solve one of the problems on Student Activity Book page 198.	OA.1 NBT.5 NBT.7 NBT.9 MP.1 MP.3 MP.6	SAB p197 (E) SAB p198 (E) HW p121 (NE)	Read 351PP-351QQ Mountains help make sense of the problems!!
4.17	**I can** ● add up to solve unknown addend word problems. **Formative Assessment:** Ask children to explain how they used the Adding Up Method to solve one of the problems on Student Activity Book page 200.	OA.1 NBT.5 NBT.7 NBT.9 MP.2 MP.3 MP.6 MP.7	SAB p199 (E) SAB p200 (E) HW p123 (NE)	Read 351PP-351QQ Students should be good at adding up to find and unknown addend
4.18	**I can** ● solve word problems with start unknown or change unknown.	OA.1 NBT.5 NBT.9	SAB p201 (E) SAB p202 (E) HW p125 (NE)	Read 351PP-351QQ

	Formative Assessment: Write the numbers 27 and 93 on the board. Tell children that 93 is the total, and 27 is the start number. Have them write an equation to represent this.	MP.1 MP.3 MP.4 MP.5 MP.6		Read 464-465
4.19	**I can** ● represent and solve Compare word problems. **Formative Assessment:** Ask children to describe how they decide what label to use for the longer bar. Children can choose one of the problems from the Student Activity Book to use as an example.	OA.1 NBT.5 MP.1 MP.2 MP.3 MP.4 MP.6 MP.7	SAB p203 (E) SAB p204 (E) HW p127 (NE)	Read 351PP-351QQ
4.20	**I can** ● solve mixed word problems. **Formative Assessment:** Ask children to describe how they solved one of the problems on Student Activity Book pages 205-207.	OA.1 NBT.5 MP.1 MP.2 MP.3 MP.4 MP.6	SAB p205 (E) SAB p206 (E) SAB p207 (E) SAB p208 (E) HW p129 (NE)	Read 351PP-351QQ
4.21	**I can** ● solve two-step word problems. **Formative Assessment:** Ask children to explain how they identified and solved the first-step question in Problem 6.	OA.1 NBT.5 MP.1 MP.3 MP.4 MP.6 MP.7	SAB p209 (E) SAB p210 (E) HW p131 (NE)	Read 351RR Useful to have kids read and restate the problem in their own words. Have them come up with the question they need to answer to solve the problem. That is the first step question – explain how it is hidden in the problem. Then discuss how to find the info they need to find the answer.
4.22	**I can** ● solve two-step word problems. **Formative Assessment:** Children should	OA.1 NBT.5 MP.1	SAB p211 (E) SAB p212 (E) HW p133 (NE)	Read 351RR

	explain why answering the hidden question is necessary to solve the problem. They can use Problem 5 as an example.	MP.2 MP.3 MP.6		
4.23	Mathematical Practices	OA.1 NBT.5 NBT.7 MD.1 MD.3 MD.4 MD.5 MP.1-8	SAB p213 (E) SAB p214 (E) HW p135 (NE)	Read 351RR
Quiz 3			AG p63 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Unit 4: Enrichment/Intervention Loop

- About 3-5 days. Suggested date of completion:

Unit Test Objectives

- 4A Solve problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ appropriately.
- 4B Subtract within 200.
- 4C Explain a subtraction method using place value.
- 4D Use addition and subtraction within 100 to solve one- and two-step word problems.

Day 1: Final Formative Assessment - SAB p215-218

Day 2-4: Reteaching Activities – TE p446-450

Day 5: Assessment - Unit 2 Test AG p64-67

Alpena Montmorency Alcona Educational School District 02 Pacing Guide
Unit 5: Time, Graphs, and Word Problems **16-18 Days**

Math Background:

- Research - TE p507O-507P
- Background - TE p507Q-507DD

Learning Path:

- **Children will:**
  - read and show time to the 5 minutes.
  - display data in bar graphs and picture graphs.
  - interpret the data in graphs to solve problems.

Big Idea 1: Time

- About 3 days. Suggested date of completion:
- Money Routine (10 min/day)

Vocabulary: a.m., p.m., analog clock, clock, digital clock, equal shares, half, halves, hour hand, minute hand

Common Core State Standards for Math [CCSS-M]	. **Common Core Standards of Mathematical Practices [SMPs]**
CC.2.NBT.2: Count within 1000; skip-count by 5s, 10s, and 100s. **CC.2.MD.7:** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. **CC.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	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
5.1	**I can** ● tell and write time to the hour, including A.M. and P.M. **Formative Assessment:** Ask children to show a time on a clock and tell what they might be doing if the time were A.M. and what they might be doing if the time were P.M.	MD.7 MP.1 MP.2 MP.3 MP.5 MP.6	SAB p221 (E) SAB p222 (E) SAB p223 (E) SAB p225 (E) SAB p226 (E) HW p137 (NE)	Read 507Z-507AA Understanding that a clock is a tool for measuring time with iterated units like a ruler and that a unit is repeated to measure lengths to form larger units – so time a unit, the minute is repeated to measure time to form larger units such as hour or day or year Hour hand moves from one number to another, minute hand moves all around the clock face.
5.2	**I can** ● tell time to 5 minutes. **Formative Assessment:** Ask children to show 6:25 on an analog clock. Have them describe an activity they might be doing at 6:25 A.M. and at 6:25 P.M.	NBT.2 MD.7 G.3 MP.2 MP.3 MP.5 MP.6 MP.7 MP.8	SAB p227 (E) SAB p228(E) SAB p229(E) SAB p230 (E) HW p139 (NE)	Read 507Z-507AA.
Quiz 1			AG p77 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 2: Picture Graphs

- About 3 days. Suggested date of completion:
- Daily Routine: Time and Money Routine (10 min/day)

Vocabulary (CCSS-M): fewer, fewest, horizontal, less, more, most, picture graph, title, vertical

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.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. **CC.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.	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
5.3	**I can** ● draw picture graphs and solve problems using information from the graphs. **Formative Assessment:** Ask children to make comparison statements using the vertical graph.	OA.1 OA.2 MD.10 MP.1 MP.3 MP.4 MP.6	HW p141 (NE)	Read 507BB Some kids may want to make a comparison bar drawing Fewer and less is difficult, model correct use of these words as often as possible Solving problems on a bar graph is a standard – picture graphs will help prepare them Review horizontal and vertical
5.4	**I can** ● solve Compare and Put Together/Take Apart problems using information from a picture graph. **Formative Assessment:** Children can choose any problem in this lesson and explain how they solved it.	OA.1 OA.2 MD.10 MP.1 MP.3 MP.4 MP.6	SAB p233 (E) SAB p234 (E) HW p143 (NE)	Read 507BB Have kids state both comparisons – using more and fewer
Quiz 2			AG p78 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 3: Bar Graphs

- About 7 days. Suggested date of completion:
- Daily Routine: Time and Money Routine (10 min/day)

Vocabulary: bar graph, data, data table, horizontal bar graph, scale, sort, survey, table, vertical bar graph

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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.	CC.K-12.MP.1: Make sense of problems and persevere in solving them.
CC.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.	CC.K-12.MP.2: Reason abstractly and quantitatively.
CC.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.	CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others.
CC.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.	CC.K-12.MP.4: Model with math.
CC.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.	CC.K-12.MP.5: Use appropriate tools strategically.
CC.2.NBT.6: Add up to four two-digit numbers using strategies based on place value and properties of operations.	CC.K-12.MP.6: Attend to precision.
CC.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.	CC.K-12.MP.7: Look for and make use of structure.
	CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
5.5	**I can** ● draw bar graphs. **Formative Assessment:** Ask children to describe how bar graphs are different from picture graphs. Children's responses may include that bar graphs use different lengths, not pictures, to show different amounts and that bar graphs have scales like rulers.	OA.1 OA.2 MD.10 MP.1 MP.2 MP.3 MP.4 MP.5 MP.6	SAB p235 (E) SAB p236 (E) HW p145 (NE)	Read 507CC-507DD **emphasize that the numbers must be placed under the vertical grid lines (not in middle of square) because a bar graph show LENGHTS! Don't use tally marks, use circles in five groups
5.6	**I can** ● read and analyze information in horizontal and vertical bar graphs. **Formative Assessment:** Have each child write and solve a comparison or equalizing problem using the information from the graph on Student Activity Book page 238.	OA.1 NBT.5 MD.10 MP.1 MP.3 MP.6 MP.7	SAB p237 (E) SAB p238 (E) HW p147 (NE)	Read 507CC-507DD This lesson will help understand the difference between the horizontal and vertical bar graphs – quantities stay the same Encourage kids to use the visual clues to describe relationship
5.7	**I can** ● use information in bar graphs to solve Put Together/Take Apart and Compare problems having one or more steps to solve. **Formative Assessment:** Ask children to write and answer a question about the information in one of their graphs.	OA.1 NBT.5 NBT.6 MD.10 MP.1 MP.3 MP.6 MP.7	SAB p239 (E) SAB p240 (E) SAB p241 (E) SAB p242 (E) HW p149 (NE)	Read 507CC-507DD
5.8	**I can** ● gather, organize, and display data. **Formative Assessment:** Ask children to describe how a table, a picture graph, and a	MD.10 MP.1 MP.3 MP.4	SAB p243 (E) SAB p244 (E) HW p151 (NE)	Read 507CC-507DD Remind that bar graph represent lengths! The scale

	bar graph are alike and how they are different.	MP.6		on the bar graph must include zero!
5.9	**I can** ● interpret data in graphs and use the data for problem solving. **Formative Assessment:** Ask children to write a Compare word problem and solve it using comparison bars.	OA.1 OA.2 MD.10 MP.1 MP.3 MP.4 MP.6	SAB p245 (E) SAB p246 (E) SAB p247 (E) SAB p248 (E) HW p153 (NE)	Read 507CC-507DD Review what exactly the concept of weekend means!
5.10	Mathematical Practices	OA.1 OA.2 NBT.4 MD.10 MP.1-8	SAB p249 (E) SAB p250 (E) HW p155 (NE)	Read 507CC-507DD **emphasize that the numbers must be placed under the vertical grid lines (not in middle of square) because a bar graph show LENGHTS! Don't use tally marks, use circles in five groups
Quiz 3			AG p79 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Unit 5: Enrichment/Intervention Loop

- About 3-5 days. Suggested date of completion:

Unit Test Objectives

- 5A Tell time from an analog or digital clock to the nearest 5 minutes.
- 5B Use a.m. or p.m.
- 5C Draw a picture graph to represent a data set with up to four categories.
- 5D Draw a bar graph to represent a data set with up to four categories.
- 5E Solve Put Together/Take Apart or Compare problems using information from a picture graph or bar graph.
- 5F Solve 2-step problems using information from a graph.
- 5G Solve Compare problems within 100.

Day 1: Final Formative Assessment - SAB p251-254

Day 2-4: Reteaching Activities – TE p

Day 5: Assessment - Unit 2 Test AG p80-83

Alpena Montmorency Alcona Educational School District 02 Pacing Guide
Unit 6: 3-Digit Addition and Subtraction **22-24 Days**

Math Background:

- Research - TE p583R-583S
- Background - TE p583T-583JJ

Learning Path:

- **Children will work toward:**
  - building fluency with addition and subtraction within 1,000.
  - mastering all addition and subtraction word problem subtypes.

Big Idea 1: Understanding Numbers to 1,000

- About 6 days. Suggested date of completion:
- Math Mountains for 100 or 2-Digit Numbers and Money Routine (10 min/day)

Vocabulary: decade number, hundreds, one thousand, ones, tens

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.2.NBT.1a:** 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 a special case: 100 can be thought of as a bundle of ten tens — called a "hundred." **CC.2.NBT.1b:** 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 a special case: 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). **CC.2.NBT.3:** Read and write numbers to 1000 using base-ten numerals, number names, and expanded form. **CC.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. **CC.2.MD.7:** Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. **CC.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.	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
6.1	**I can** ● count to 1,000 and represent 3-digit numbers. **Formative Assessment:** Ask children to use gestures to indicate ones, tens, and hundreds as they count aloud from 380 to 410.	NBT.1a NBT.1b NBT.2 NBT.3 MD.8 MP.1 MP.2 MP.3 MP.5 MP.6	SAB p257 (E) HW p157 (NE)	Read 583CC-583DD Math drawings, secret code cards, help connections between written numbers Explain what the comma is used for Connecting money to place value to help with quantitative understanding, then drawings, then patterns with 10s
6.2	**I can** ● understand the value of the digits in a 3-digit number and write 3-digit numbers in expanded form. **Formative Assessment:** Have children describe how the Secret Code Cards can be used to show the expanded form of a number.	NBT.1 NBT.3 NBT.7 NBT.8 NBT.9 MP.2 MP.3 MP.5 MP.6 MP.8	SAB p261 (E) SAB p262(E) HW p159 (NE)	Read 583CC-583DD Quick practice routines are introduced here – these help build fluency and mental math – use more often if kids need extra support This shows the importance of make a ten, because now you will help kids make a hundred!! Connecting digits, equations, drawings, secret code cards
6.3	**I can** ● compare numbers within 999. **Formative Assessment:** Ask children to explain how to compare 728 and 723. Their answers should indicate that because the hundreds and tens are the same, they must compare the ones.	NBT.4 MP.3 MP.6	SAB p263 (E) SAB p264 (E) HW p161 (NE)	Read 583CC-583DD Comparing numbers (learned symbols in unit 2) is IMPORTANT prerequisite skill for understanding regrouping If difficult to compare numbers – have kids make

				math drawings or secret code cards to represent the numbers before they write the comparison symbol OR write it out in expanded form then compare Listen to how kids are explaining this! GUIDE KIDS to see that the most efficient way to compare numbers is to start at the leftmost place value moving left to right BUT TRY TO LET KIDS WHO GET IT EXPLAIN TO THOSE THAT DON'T!
6.4	**I can** ● count by ones and tens. ● add and subtract 10 from a number. ● read and write number names for 3-digit numbers. **Formative Assessment:** Ask children to use gestures to count by ones from 490 to 520. Then have them use gestures to count by tens from 490 to 520.	NBT.1a NBT.2 NBT.3 MD.8 MP.1 MP.2 MP.3 MP.6 MP.7 MP.8	SAB p265 (E) SAB p266 (E) HW p163 (NE)	Read 583CC-583DD Kids use what they learned in unit 2 about adding 2 digit numbers to extend their thinking – Emphasize what happens in a method when a new ten or new hundred is formed Counting on by 1, 10 - then draw the box around these when make a 10 or 100 Make sense of problems is excellent way to understand what you are doing – saying out loud all the parts of the problem help a TON
6.5	**I can** ● use addition exercises to show place value. ● apply knowledge of place value to word problems. **Formative Assessment:** Invite children to discuss the method they prefer to use to solve	NBT.7 MP.1 MP.3 MP.5 MP.6	SAB p267 (E) SAB p268 (E) HW p165 (NE)	Read 583DD-583FF and 583JJ This could be easy for some kids – let them work with others or explain – have them teach other kids with the secret code cards or pictures Reminder that kids should always be using diagrams and/or equations to represent word problems

	the equation 500 + 8 = . . Some children may prefer to use Secret Code Cards or proof drawings. Others may visualize these methods in their heads.			
Quiz 1			AG p93 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 2: Adding to 1,000

- About 4 days. Suggested date of completion:
- Daily Routine: Math Mountains for 100 or 2-Digit Numbers and Money Routine (10 min/day)

Vocabulary: New Groups Above, New Groups Below, Show All Totals

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.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. **CC.2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations. **CC.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. **CC.2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations.	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
6.6	**I can** ● explain the methods used to solve addition problems and discuss good explanations and good questions. **Formative Assessment:** Ask children to choose one exercise from Student Activity Book page 272. Children draw a proof diagram for that exercise and describe how the numerical method and the drawing match.	NBT.7 NBT.9 MP.3 MP.6	SAB p271 (E) SAB p272 (E) HW p167 (NE)	Read 583EE-583FF and 583JJ This extends what they know and helps kids to talk/explain their answers and solutions MUST use place value language to explain (ones, tens hundreds) At this point in the unit you MUST have kids do the solve and discuss method so you can listen and correct errors – Look at homework and independent classwork to check for errors too!!!! Make sure drawings and numbers are lined up accurately
6.7	**I can** ● add within 1,000 using drawings and strategies based on place value. **Formative Assessment:** Circulate around the room as children are solving the exercises on Student Activity Book page 275. Ask individual children to explain the method they are using to solve specific exercises on the page.	NBT.7 NBT.9 MP.3 MP.5 MP.6 MP.8	SAB p273 (E) SAB p274 (E) SAB p275 (E) HW p169 (NE)	Read 583EE-583FF Goal of this lesson is to be able to present a competent explanation of a solution using place value language Fluency is important so kids can be successful in grade 3 with mult/div
6.8	**I can** ● use the Adding Up Method to solve unknown addend problems containing 3-digit numbers. **Formative Assessment:** : Ask children to explain how to use the Adding Up method to	OA.1 NBT.7 NBT.9 MP.1 MP.3 MP.6	SAB p277 (E) SAB p278 (E) HW p171 (NE)	Read 583EE-583FF and 583II Review adding up – built on the inverse relationship between add and sub

	find the unknown addend in the equation 251 +☐ = 632	MP.8		Kids pay close attention to the different ways to add up - let them pick the one they like best – have kids try to make the connections
Quiz 2			AG p94 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 3: 3-Digit Subtraction

- About 5 days. Suggested date of completion:
- Daily Routine: Math Mountains for 100 or 2-Digit Numbers and Money Routine (10 min/day)

Vocabulary: ungroup

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.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. **CC.2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations.	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
6.9	**I can** ● subtract 3-digit numbers from hundreds numbers through 1,000. **Formative Assessment:** Ask children to choose one exercise from Student Activity Book page 282. Children should use two methods to solve. Ask them to describe how the two models are alike and how they are different.	OA.1 NBT.7 NBT.9 MP.1 MP.3 MP.6	SAB p281 (E) SAB p282 (E) HW p173 (NE)	Read 583GG-583JJ This builds on what you learned in Unit 4 Use proof drawings and secret code cards to subtract – this will help connect to numerical methods Emphasize discussion of what happens when a number is ungrouped! Ungroup is used because it helps kids see that a number is being unwrapped – regroup means ungroup and it means group in addition
6.10	**I can** ● subtract from 3-digit numbers with a zero in the ones or tens place. **Formative Assessment:** As children work on Student Activity Book page 284, circulate around the classroom and ask children to explain how they know when to ungroup.	NBT.7 NBT.9 MP.1 MP.2 MP.3 MP.5 MP.6	SAB p283 (E) SAB p284 (E) HW p175 (NE)	Read 583GG-583II You can ungroup in all place when you subtract, BUT guide the kids to understand that it is most efficient to only ungroup where needed Ungrouping left to right is preferred by most kids – (also makes across zeros easier to understand) If kids insist on “traditional way” let them – BUT ask them to try other methods so they can compare which works best MX starts with sub with zeros to support kids ungrouping first from the left Models might help kids understand better –so use

				the itools with base ten blocks – struggling kids can use these too
6.11	**I can** ● subtract from any 3-digit number, with or without ungrouping. **Formative Assessment:** Ask children to explain how to ungroup in this subtraction exercise: 752-384.	NBT.7 NBT.9 MP.1 MP.3 MP.4 MP.6	HW p177 (NE)	Read 583GG-583II If it is hard to show with the cards – have kids make a drawing first then find the cards that match Expanded method helps conceptually to understand ungrouping – begin with this lesson and emphasize the ungroup first method
6.12	**I can** ● practice subtracting 3-digit numbers with and without ungrouping. **Formative Assessment:** Circulate around the room as children work. Ask them to explain how they knew when and how to ungroup.	NBT.7 NBT.9 MP.1 MP.3 MP.6 MP.7 MP.8	HW p179 (NE)	Read 583GG-583II
Quiz 3			AG p95 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Big Idea 4: 3-Digit Addition and Subtraction

- About 4 days. Suggested date of completion:
- Daily Routine: Math Mountains for 100 or 2-Digit Numbers and Money Routine (10 min/day)

Vocabulary: opposite operations

Common Core State Standards for Math [CCSS-M]	**Common Core Standards of Mathematical Practices [SMPs]**
CC.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. **CC.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. **CC.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. **CC.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. **CC.2.NBT.9:** Explain why addition and subtraction strategies work, using place value and the properties of operations.	CC.K-12.MP.1: Make sense of problems and persevere in solving them. CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM and SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
6.13	**I can** ● practice addition and subtraction with 3-digit numbers. ● use the relationship between addition and subtraction to check answers. **Formative Assessment:** Have children explain how a Math Mountain can show either addition or subtraction.	NBT.7 NBT.9 MP.3 MP.6 MP.7	SAB p285 (E) SAB p286 (E) HW p181 (NE)	Read 583II Watch for errors! Read Teaching note 683
6.14	**I can** ● use addition and subtraction within 1,000 to solve word problems. **Formative Assessment:** Ask children to choose one of the problems they solved today and ask them to describe how their drawing and equation represent the problem.	OA.1 NBT.5 NBT.7 MP.1 MP.3 MP.4 MP.6	SAB p287 (E) SAB p288 (E) SAB p289 (E) SAB p290 (E) HW p183 (NE)	Read 583JJ These are not sit at your desk assignments – engage in discussion!
6.15	Mathematical Practices	OA.1 NBT.4 NBT.5 NBT.7 NBT.9 MP.1-8	SAB p291 (E) SAB p292 (E) HW p185 (NE)	Read 583JJ
Quiz 4			AG p96 (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Unit 6: Enrichment/Intervention Loop

- About 3-5 days. Suggested completion date:

Unit Test Objectives

- 6A Use drawings to represent amounts of hundreds, tens, and ones in 3-digit numbers.
- 6B Read and write numbers to 1,000 using base-ten numerals, number names, and expanded form.
- 6C Compare two 3-digit numbers using >, =, and < symbols to record the results of the comparison.
- 6D Count within 1,000; skip count by 10s and 100s.
- 6E Add 10 or 100 to a given number 100-900 or subtract 10 or 100 from a given number 100-900.
- 6F Add within 1,000.
- 6G Subtract within 1,000.
- 6H Use addition and subtraction within 1,000 to solve word problems.

Day 1: Final Formative Assessment - SAB p293-296

Day 2-4: Reteaching Activities – TE p

Day 5: Assessment - Unit 2 Test AG p97-100

Alpena Montmorency Alcona Educational School District 02 Pacing Guide
Unit 7: Arrays, Equal Shares, and Adding or Subtracting Length **11-13 Days**

Math Background:

- Research - TE p701L-701M
- Background - TE p701N-701Z

Learning Path:

- **Children will work toward:**
  - understanding how to structure an array.
  - seeing and counting length units using a number line.

Big Idea 1: Arrays and Equal Shares (About 3 days. Suggested completion date .)

- Comparing 3-Digit Numbers and Money Routine (10 min/day)

Vocabulary: array, row, column, half, halves, thirds, fourths, equal shares

Common Core State Standards for Math [CCSS-M]

CC.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.

CC.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.

CC.2.MD.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

CC.2.G.1: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5
Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

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

CC.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.

Common Core Standards of Mathematical Practices [SMPs]

CC.K-12.MP.1: Make sense of problems and persevere in solving them.

CC.K-12.MP.2: Reason abstractly and quantitatively.

CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others.

CC.K-12.MP.4: Model with math.

CC.K-12.MP.5: Use appropriate tools strategically.

	CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Common Core Standards of Mathematical Practices [SMPs]

CC.K-12.MP.1: Make sense of problems and persevere in solving them.
CC.K-12.MP.2: Reason abstractly and quantitatively.
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CC.K-12.MP.7: Look for and make use of structure.
CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM And SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
7.1	**I can** ● arrange items in rectangular arrays and partition rectangles into equal shares. **Formative Assessment:** Ask children to draw an array and explain one way to use addition to find the number of objects in the array.		SAB p301-304 (E) HW p188 (NE)	Read 701W Different colors help to understand rows and columns Building concept – work with hands on, then rectangles drawn on grid paper, to working with unmarked rectangles Square inch tiles used to make arrays – break apart into rows and columns Then find total number of squares, counting them,

				adding, or other equations HUGE importance to get kids to find TONS of ways to represent parts of rectangle HUGE to get kids to see all the ways to represent ½, 1/3, ¼ and they are all the same size no matter how shown
7.2	**I can** ● fold and draw equal shares to show halves, thirds, and fourths. **Formative Assessment:** Ask children to explain how they know if equal shares are the same shape. Children should realize that if they can rotate or flip one of the shares to place it exactly on top of each of the other shares, then the shares are all the same shape.		SAB p305-308 (E) HW p190 (NE)	Read 701W Vocab is important! Tactile helps huge! Kids will need to use flips and turns to confirm same size shares Stick to grade 2 – **READ 716-717 Note** Let kids try to do 1/3s on their own for folding – then describe way shown in this lesson After hand on folding – kids draw lines in shapes to make equal shares And all the ways do not always consist of the same shapes
Quiz 1			AG p (E)	
Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to	

			Intervention Resource Books.	

Big Idea 2: Relate Addition and Subtraction to Length (About 5 days. Suggested completion date .)

- Daily Routine: Math Mountains for 100 or 2-Digit Numbers and Money Routine (10 min/day)

Vocabulary: number line diagram

Common Core State Standards for Math [CCSS-M]

CC.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.

CC.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.

CC.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.

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

CC.2.MD.1: Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

CC.2.G.1: Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces.5 Identify triangles, quadrilaterals, pentagons, hexagons, and cubes.

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

CC.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.

CC.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.

CC.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.

Common Core Standards of Mathematical Practices [SMPs]

CC.K-12.MP.1: Make sense of problems and persevere in solving them.

	CC.K-12.MP.2: Reason abstractly and quantitatively. CC.K-12.MP.3: Construct viable arguments and critique the reasoning of others. CC.K-12.MP.4: Model with math. CC.K-12.MP.5: Use appropriate tools strategically. CC.K-12.MP.6: Attend to precision. CC.K-12.MP.7: Look for and make use of structure. CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Common Core Standards of Mathematical Practices [SMPs]

CC.K-12.MP.1: Make sense of problems and persevere in solving them.
CC.K-12.MP.2: Reason abstractly and quantitatively.
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CC.K-12.MP.5: Use appropriate tools strategically.
CC.K-12.MP.6: Attend to precision.
CC.K-12.MP.7: Look for and make use of structure.
CC.K-12.MP.8: Look for and express regularity in repeated reasoning.

Lesson	Learning Target	CCSM And SMPs	Additional Resources Essential (E) Non-essential (NE)	Hints
7.3	**I can** ● solve word problems involving lengths and use a number line diagram to add and subtract		SAB p309-312 (E) HW p192 (NE)	Read 701Y Making and using drawings helps to solve word

	within 100. **Formative Assessment:** Ask children to explain how solving a length word problem is different from solving other word problems. Children should mention that they use a unit of measure in their answer.			problems Labeling in important Perimeter is taught informally – use distance around instead of perimeter (that is for grade 3) Drawing circles (looping) around the lengths instead of marking points helps kids see numbers on a number line diagram.
7.4	**I can** ● add three and four lengths to solve word problems. **Formative Assessment:** Ask children to explain different methods for adding three numbers. Possible methods may include adding two numbers and then adding the next number to the total, or lining all three numbers up and adding the ones, regrouping one for tens if needed, and then adding the tens.		SAB p313-316 (E) HW p194 (NE)	Read 701Y
7.5	**I can** ● solve problems involving adding and subtracting lengths. ● represent sums and differences within 100 on a number line diagram. **Formative Assessment:** Ask children to explain how they know whether to add or subtract to find the answer using a number line diagram. Children's responses should reflect understanding that you add if the total is missing and subtract if one addend is missing.		SAB p317-320 (E) HW p196 (NE)	Read 701Y Kids relate number line to a ruler BUT must understand that the distance between 2 numbers on a number line is not an actual unit of length Kids learn how to represent computations on a number line – but kids can use any method to compute
7.6	Mathematical Practices			Read 701Z
Quiz 2			AG p (E)	

Reteach			To reteach, use the resources listed above (Essentials and Non-Essentials) as well as the Response to Intervention Resource Books.	

Unit 7: Enhancement/Intervention (About 3-5 days. Suggested completion date .)
Unit Test Objectives ● 7A 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 the sum of equal addends. ● 7B Partition circles and rectangles into 2 halves, 3 thirds, or 4 fourths. Describe shares using the terms *half of, a third of,* and *a fourth of.* ● 7C Recognize that equal shares of identical wholes need not have the same shape. ● 7D Partition a rectangle into rows and columns of same-size squares and find the total number of them. ● 7E On a number line diagram, represent whole numbers as lengths, and represent whole-number sums and differences within 100. ● 7F Use addition and subtraction within 100 to solve word problems involving lengths.
Day 1: Pre-Assessment - SAB p
Day 2-4: Reteaching Activities – TE p760-763
Day 5: Assessment - Unit 2 Test AG p