Grade Level	**2**	**Content Area**	**Mathematics**
Course Title (grades 9-12) Only			
Length of Unit	5 days	**Time of Year**	September
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	All knowledge acquired in Common Core Standards' sequenced lessons prior to 2.NBT.1 Students must be able to: identify and order the value of each number 0-99, read and write numbers to 100, determine the value of each digit, identify expanded form of numbers up to 2 digits (99). Connections: 2.OA.2; 2.NBT.1; 2.NBT.3; 2.RI.3; 2.W.2; 2.SL.3		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	Diagnostic Pretest, Ability Groupings, Direct Instruction in all groups (ELL), Mastery-based Learning At Risk and Physically Impaired · use models and tools to aide in comprehension		
Standard Number and Description *List the Number* and full description for the required Standard.*	Grade: 2 Domain: Numbers and Operations in Base Ten - 2.NBT.5 Cluster: Used place value understanding and properties of operations to add and subtract Standard: #5 - Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.		
Summative Assessment *Describe a cumulative and comprehensive activity, clearly separate from instruction and guided or independent practice, which allows each student to individually demonstrate mastery of the required Standard. A copy of the summative assessment must be attached to the curriculum sample*	Students will complete a 10 question test covering number patterns, place value, expanded numbers, fact families and operations of addition/subtraction		
Scoring Scale and Mastery Level	School grading scale as follows: 10 problems @ 10 points each = 100 points =100% Mastery of 2.NBT.5 94% - 100% = A **<u>80 points = 80% Mastery of 2.NBT.5</u>** 87% - 93% = B 80% - 86% = C 70% – 79% = D Needs remediation 69% - 0% = Needs remediation		
Materials/Resources Needed	Hundreds chart, flash cards, counting cubes, worksheet number lines, place value worksheets, operations worksheet, whiteboards, number cards		

Lesson (add as needed)	Instruction	Student Activities
1	***Lesson 1 Objective: I can identify order of numbers to 100 using patterns.***	
	1 - Teacher welcomes students to class and states the day's posted objective.	Students echo the objective.
	2 - Teacher presents a Hundreds Chart with small sticky notes covering some numbers. Class collaboratively identifies hidden numbers and shares their thought processes.	As a group, students identify missing numbers on a Hundreds Chart and explain their thinking.
I Do	3 - Teacher selects one row on the chart as a number line and moves sticky notes to establish a pattern. (Ex. 41, 43, 45 is a count by 2 pattern.) Teacher then uses the "think aloud" strategy to identify the pattern and gives the missing numbers.	
We Do	4 - Teacher selects another row on the chart as a number line and moves sticky notes to establish a new pattern.	Students identify the pattern and complete the missing numbers as a group.
We Do	5 - Teacher selects yet another row on the chart as a number line and moves sticky notes to establish another pattern.	Students work with a partner to identify the pattern and write the missing numbers on whiteboards.
We Do	6 - Teacher selects a neatly written student whiteboard, displays it to the class and asks all students to expand the pattern by adding the next two numbers.	Students add next two numbers to the pattern with their partner.
We Do	7 - Teacher selects another neatly written student whiteboard, displays it to the class and asks all students to expand the pattern by adding the next two numbers that would precede this pattern.	Students add two preceding numbers to the pattern with their partner.
You Do	8 - Teacher provides a worksheet of missing numbers on a number line and number patterns to expand. – (Formative Assessment) 9 -Teacher asks class to read today's objective and class is dismissed.	Students work independently to complete a worksheet.
2	***Lesson 2 Objective: I can identify patterns of numbers in word problems and can use a new strategy to add numbers quickly.***	
	1 - Teacher welcomes students to class and asks the class to read the day's posted objective.	Students read the objective.
We Do	2 - Teacher reviews Lesson 1 by displaying a set of number cards with back showing for some cards establishing a pattern. (Ex. 4, 7, ___, 13, __) 3 - Activity can be repeated if more review is needed.	Students as a group verbalize the pattern and identify missing numbers with a "shoulder partner".
I Do	4 - Teacher uses students to model determining order on number line. (Ex. If Julie is the 17th person in line to buy a snow cone and Jim is 5 places in	

	line in front of her, what number tells Jim's place in line. (12th)	
We Do	5 - Teacher provides a similar problem to allow students to determine positions in a line.	Students participate in a group problem and verbalize their thinking.
I Do	6 - Teacher displays a Hundreds Chart and models how adding 10 to any number can be done rapidly.	
I Do	7 - Teacher also models on the Hundred Chart how adding any single digit even number to another single digit even number results in an even number, but adding a single digit even number to a single digit odd number results in an odd number. Understanding this strategy speeds computation and self-checking abilities.	
We Do	8 - Teacher distributes number cards (0-10) with boys receiving even numbers and girls getting odd numbers. Teacher proves the principle by forming several number combinations (using boy + boy = even number, boy + girl = odd number.	Students participate by predicting the kind of answer to be attained by various pairs of students.
	9 - Teacher asks students to work with partners to determine if the same strategy works with subtraction and be ready to share their thinking and a few examples as proof.	Students work with partners to solve this challenge as well as preparing their reasoning and examples.
	10 - Teacher asks class to read today's objective again and class is dismissed.	
3	***Lesson 3 Objective: I can determine the place value of numbers.***	
	1 - Teacher welcomes students to class and asks the class to read the day's posted objective.	Students read the objective.
	2 - Teacher reviews Lesson 2 by dividing the class is half and giving a set of single digit addition flash cards to one group and a set of single digit subtraction flash cards to the other. Teacher asks the groups to work to prove what happens when adding or subtracting odd/even numbers and to be ready to explain and prove their answers.	Students work in groups to prove/disprove the strategy and develop a group response.
	3 - Teacher poses the question of "Will this odd/even strategy work with double digit problems?" Class discussion ensues.	Students participate in class discussion.
I Do	4 - Teacher models taking a two-digit number and separating the digits into a tens column and ones column on the class whiteboard. Then teacher constructs counting cubes into matching tens/ones to demonstrate the value.	
We Do	5 – Teacher assigns students to work with partners. Teacher provides two-digit number cards instructing one student to write the 10's value and the other student to write the one's value on whiteboards.	Students separate tens from ones in their number.

We Do I Do We Do	5 - Teacher provides blue cubes to students with ten's value, red cubes to students with one's to create representations of their parts of the problem and alerting them to be ready to explain their work. 6 - Before sharing occurs, teacher models how to write her original problem in expanded form. (Ex. 40 + 6 = 46) 7 - Teacher instructs students to work with their partner to write the expanded form of their problem and asks them to prepare to explain their problem three ways. 8 - Teacher leads class sharing of the given numbers. – Formative Assessment 9 - Teacher asks class to read today's objective again and class is dismissed.	Students work with a partner to visually represent their number in 10s and 1s and prepare their explanation. Students complete the expanded form with their partner and prepare to explain the number in 10s/1s, visual cube representation and expanded form. Students read the objective.
4 You Do You Do I Do We Do We Do	***Lesson 4 Objective: I can add two-digit number using a 10s and 1s frame.*** 1 - Teacher welcomes students to class and asks the class to read the day's posted objective. 2 - Teacher reviews Lesson 3 by presenting several two-digit numbers and asking class to write the values in expanded form on whiteboards. 3 - Teacher assesses students' ability to determine the value of a number by its position by having students divide their whiteboards into a four-square. Teacher writes four two-digit numbers on the whiteboard underlining on digit in each. (Ex. <u>5</u>7, 8<u>2</u>, 9<u>0</u>, <u>1</u>1) Students are instructed to write the value of each underlined digit on their four-square. – Formative Assessment 4 - Teacher poses the question "Do you think our odds/evens strategy will work with two digit problems?" 5 - Teacher leads a class discussion. 6 - Teacher models adding two odd numbers to two even numbers (22+33) showing the problem in a tens and ones frame. (Avoid problems that require borrowing/carrying.) Teacher does a "think aloud" during the model. 7 - Teacher asks students to help with another problem. (17 + 12) 8 - Teacher provides another problem adding one digit number to a two-digit number using the 10s and 1s frame. (12 + 6) 9 - Teacher poses the question "When will the odd/even strategy stop working for us?"	Class reads the objective. Students divide whiteboards in 4 parts and record values for numbers teacher has underlined. Students are provided "think time" to formulate an answer. Students participate in a class discussion. Students assist teacher to identify odds/evens in the 10s frame and solve both problems. Students are provided think time to formulate an answer.

	10 - Teacher leads a group sharing time. (Answer: When a column on the 10s and 1s chart reaches 10, borrowing/carrying is needed.)	Students participate in a class discussion.
I Do	11- Teacher models a few problems showing that occurrence on the 10s and 1s frame on the whiteboard. (Ex. 19 + 2, 26 + 15, 7 + 13)	
You Do	12 – Teacher provides a worksheet with two-digit problems and instructs students to separate the problems into 10s/1s columns and use the odd/even approach to solve only the problems that don't result in 10 or more in either column. Other problems can by circled to do at a later time.	Students complete an addition worksheet as teacher circulates to provide support.
	13 - Teacher asks class to share today's objective in their own words with a "shoulder partner" and class is dismissed.	Students share the objective with a "shoulder partner".
5	***Lesson 5 Objective: I can use strategies to quickly and easily add and subtract two-digit number.***	
	1 - Teacher welcomes students to class and asks the class to read the day's posted objective.	Students read the objective in unison.
You Do	2 - Teacher reviews Lesson 4 by presenting several two-digit addition problems and asking students to write the values in expanded form on whiteboards.	Students write expanded forms on whiteboards.
I Do	3 - Teacher displays these problems and models the association of addition and subtraction with odd and even numbers. (Ex. 6+2=8 or E+E=E and 6-2=4 or E-E=E.	
We Do	4 - Teacher provides guided practice of odd numbers by displaying 7-3 or O-O=E and 7+3=10 or O+O=E.	Students assist teacher in completing and verbalizing the factors.
I Do	5- Teacher explains that this works because all digits are in the same fact family. Teacher displays magnetic numbers for a fact family on class whiteboard. (Ex. 6, 4, 2 all of which are even numbers.) Regardless of how these numbers are manipulated into addition or subtraction problems, the answer has to be an even number.	
We Do	6 - Teacher leads guided practice having student volunteers manipulate an odd fact families with magnetic numbers on the whiteboard. (Ex. 1, 3, 7)	Several students work with magnetic numbers on the board. Students at seats become "accuracy judges".
	7- Teacher reminds students that the odd number/even number strategy only works in 10s and 1s columns until the answer reaches 10 when borrowing/carrying affects the answer. However it will help speed them up on addition problems up to that point.	
You Do	8 - Teacher administers Summative Assessment.	Students take the Summative Assessment.
	9 - Teacher reads the day's objective and asks students to rate how they think they did on the test over this week's concepts.	Students show "Fist to Five" their self-rating.

Name _____ Date _____

Summative Assessment And <u>Answer Key</u>
Common Core Standard: 2.NBT.5

1. Write the next 3 numbers in these patterns.

11, 14, 17, __(20)__, __(23)__, _(26)___ **29, 33, 37, __(41)__, __(45)__, __(49)__**

2. Circle the value of the underlined digits in these numbers.

<u>7</u>9 **6<u>2</u>** **<u>8</u>8**

70 (X)**7** **60** **2** (X) **80** (X) **8**

3. Complete these <u>addition</u> problems. Then write the problem in expanded form.

5 tens 7 ones = ___57_____ **7 tens 8 ones = __78_____**

___50___ + __7____ = ___57__ **__70___ + ___8___ = __78___**

4. Complete these <u>subtraction</u> problems. Then write the problem in expanded form.

5 tens 7 ones = ___57_____ **7 tens 8 ones = ___78_____**

___50___ - __7____ = ___43___ **___70__ - ___8____ = __62___**

5. John is 7th in line to buy movie tickets. Jeff is 3 people in front of him. What position is Jeff in? ___4th___

6. Dan ended the race in 3rd place. Nick came in 17 runners later. Where did Nick finish? ___20th____

7. Amy's birthday is an even number with a 2 in the ten's place. Which number shows her special day?

29 22 32

8. Use these numbers to construct a fact family showing addition and subtraction. 4, 5, 9

___4____ + ___5____ = ___9____ **___5____ + ___4____ = ___9____**

____9___ - ___4____ = ___5____ **___9____ - ____5___ = ____4___**

9. Divide these problems into tens and ones. Then solve the problems. Watch the operation signs!

77	21	58	16	48
+ 11	+34	-11	+20	-44
88	55	47	36	04

10. Circle the problem above that demonstrates odd + odd = even. (The first problem should be circled.)

Put a star on the problem above that shows even – even = even. (The last problem should be starred.)