Curriculum Sample for 2nd Grade Math

Grade Level	2nd	**Content Area**	Math
Course Title (grades 9-12 Only)	n/a		
Length of Unit	5 days	**Time of Year**	3rd Quarter
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	Students will be expected to know how to add and subtract within multiples of 10 in the range 10-90. Students will demonstrate fluency of addition and subtraction facts. Students will be expected to know how to solve problems based on addition and subtraction of one- and two-digit numbers using objects pictures, words and numbers. Students will be able to determine the value of a collection of coins up to one dollar. Students will be expected to know strategies based on place value using concrete models or drawings.		
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.*	Students will be taught using scaffolding methods as well as with direct instruction. Through lecture-discussions and demonstrations, students will develop their knowledge while practicing problem-based learning & inquiry activities.		
Standard Number and Description *List the Number* and full description for the required Standard.*	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.		
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 an 11-question assessment checking to see if they can fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.		
Scoring Scale and Mastery Level *Explain how the assessment is scored, to include points per question, how points are awarded, total points possible, criteria necessary to demonstrate mastery, and grading scale. A copy of the answer key and scoring rubric must be attached to curriculum sample.*	This assessment will demonstrate Students' knowledge of skills adding and subtracting within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction. Question 1 = 3 points; Question 2 = 4 points; Question 3 = 3 points; Question 4 = 13 points; Question 5 = 4 points; Question 6 = 7 points; Question 7 = 3 points; Question 8 = 2 points; Question 9 = 3 points; Question 10 = 2 points; and Question 11 = 2 points. There are a total of 46 points. 37 points = mastery (80% or above).		
Materials/Resources Needed	Teacher's Edition Saxon math book: Grade 2, Volumes 1 and 2; hundred chart; Fact Practice and Guided Practice 36; Fact Practice 44 and Guided Practice 44; Fact Practice and Guided Practice 53; work mat; Fact Practice and Guided Practice 87; Fact Practice and Guided Practice 89; two cups; dimes and pennies.		

Lesson (add as needed)	**Instruction**	**Student Activities**
1	Teacher leads Students to count by tens to 300. Teacher assigns class Fact Practice 36A. Teacher explains to Students, "Today you will learn how to add 10 to the numbers 10 – 90, as well as add 10 to *any* two-digit number. Put your math folder on your desk so you can see the hundred chart. Point to 20 on the hundred number chart. Point to the number that is ten more. What number is ten more than 20? Teacher continues this pattern until finishing all multiples with the range of 10 to 90. Teacher then states, "We can write '20 and ten more' like this." Teacher then writes "20 + 10 =" on the board (vertically and horizontally.) Teacher questions, "What is ten more than 50?" Teacher then asks for volunteers to write the equation on the board. Teacher continues calling on volunteers until students demonstrate competency. Teacher assigns "Guided Class Practice 36 A (Odds)." Half-way through the class, the teacher then refers students back to their hundred chart and explains that they will use it to help solve problems. Teacher writes "27 + 10 = "on the board. Teacher asks "What do you think the answer to this problem would be? Let's check the answer using the hundred number chart." Teacher finds 27 on the hundred chart and counts ten more with students. Teacher then writes the equation 64 + 10 = on the board. Teacher finds 64 on the hundred chart and counts ten more with students and writes 74 on the board. Teacher continues giving examples until students demonstrate competency. Teacher assigns "Guided Practice 44 (Odds)."	Students count by tens to 300 aloud. Students complete Fact Practice 36A. Students respond to the question, "What is ten more than 20?" Student volunteers write equations on the board. Students complete Guided Practice 36A (Odds). Students use hundred chart to complete the problem "27 + 10 =." Students continue to answer questions given by Teacher. Students complete "Guided Practice 44 (Odds).

2	Teacher assigns class Fact Practice 53A. Teacher states, “Today you will learn how to add two-digit numbers using dimes and pennies.” Teacher draws a chart on the board with two columns entitled, “Dimes” and “Pennies.” Teacher puts 24 cents into a cup and states, “ I have 24 cents in this cup. I used the fewest number of dimes and pennies. How many dimes and pennies do I have?” Teacher then writes the numbers on the chart to show two dimes and four pennies. Teacher takes another cup and puts 35 cents in it. Teacher states, “I have 35 cents in this cup. Again, I used the fewest number of dimes and pennies. How many dimes and pennies do I have?” Teacher writes the numbers on the chart to show three dimes and five pennies. Teacher pours the two cups together. “Now, how many pennies and dimes are in this cup? How do you know? Let’s count to check.” Teacher sorts coins and counts them. Then, teacher writes a sum line below the chart, answers the problem which comes out to a total of five pennies and nine dimes. Teacher asks Students, “How much money is that?” Teacher writes done 59 cents on the board. Teacher states that now Students are going add two-digit numbers. Teacher explains to students that he or she has 43 cents in one cup. Teacher asks, “How many dimes and pennies is that?” Teacher instructs students to write that in the top row of Problem One. Teacher demonstrates on the board. Teacher then explains that he or she has 51 cents in a second cup. “How many dimes and pennies is that?” Teacher instructs students to write that in the bottom of Problem One. Teacher then states, “Now I will put the money together. Teacher asks, “How many pennies and dimes do I have now?” Teacher counts to check with children.	Students complete Fact Practice 52A. Students respond to questions from Teacher by adding. Students use hundred chart to help answer the questions. Students complete more example problems given by teacher. Students complete Guided Practice 53A (Odds).

	Teacher gives Students several more examples of adding two-digit numbers and checks for students' competency. Finally, teacher assigns Guided Practice 53 A (Odds).	
3	Teacher assigns Fact Practice 87A. Teacher explains to students, "You have been adding two-digit numbers. Today will begin to learn how to subtract two-digit numbers using dimes and pennies." Teacher writes "75 cents – 23 cents =" on the board. "What kind of problem is this? " Teacher then tells Students that they are going to represent this problem using the least amount of dimes and pennies. Teacher says, "How many dimes and pennies will we use for 75 cents?" Teacher puts dimes and pennies on a work map. Teacher states, "What does the problem tell us to do now?" Teacher then writes a column entitled, "Dimes" and a column entitled, "Pennies." Teacher states that we will take away the pennies first. Teacher questions students, "how many pennies does our problem tell us to take away? I will take away three pennies and put them in the penny cup." Teacher removes three pennies. Teacher then asks, "How many pennies do we have now?" Teacher writes a two under the "Pennies" column. Teacher asks Students, "How many dimes does our problem tell us to take away? I will take two dimes and put them in the dime cup. Teacher removes two dimes. Teacher then questions students, How many dimes do we have now? Teacher writes five under the dimes' column. Teacher states, "How much money do we have left?" Teacher puts the coins back in the cups. Teacher continues problems with Students until Students' competency is shown. Teacher assigns Guided Practice 87A.	Students practice facts sheet 87A. Students identify the subtraction problem as "some, some went away." Students identify seven dimes and five pennies. Students respond to Teacher's question that 23 cents need to be taken away.
4	Teacher assigns Face Practice 89A. Teacher says, "Yesterday we practiced subtracting two-digit	Students respond to Teacher's problem, "52 cents – 35 cents =." Students respond that this is a "some, some went away"

	numbers using dimes and pennies. Today you will learn how to write the steps for two-digit subtraction problems on paper. You will work with a partner to do this. Teacher pairs Students and gives them a cup of dimes, a cup of pennies, a work chart and scrap paper. Teacher writes on the board, "Jamelle had 52 cents. She had only dimes and pennies. She spent 35 cents at lunch. How much money does she have left?" Work with your partner to show 52 cents using the fewest number of dimes and pennies. Teacher asks Students, "What coins did you use? How will we show the story using dimes and pennies? Do we have enough pennies that we can take away five? What will we need to do? Show that with your coins. How many dimes and how many pennies do you have now? How much money is this? What we will do next? (Take away five pennies and take away three dimes.) Teacher asks, "How much money is left?" Teacher instructs students to write a number sentence for the story. Teacher writes, "52 cents – 35 cents =" on the board horizontally and vertically on the board. Teacher instructs students to write the problem on their papers. Teacher asks a volunteer to come up and show the class how to solve the equation by borrowing from the ten's column. Teacher checks student's answer and reviews the steps of the problem. Teacher gives students several other examples until students exhibit competency. Teacher assigns Guided Practice 89A.	problem. Students demonstrates 52 cents – 35 cents = 17 cents.
5	Teacher passes out the assessment and instructs students to do their best. Teacher collects papers when students finish.	Students complete the assessment. Students turn in their papers.

Summative Assessment:

Name _____Date _____

Directions: Please answer all questions to show your skills adding and subtracting within 100 using strategies based on place value, properties of operations and/or the relationship between addition and subtraction.

1. 10 people went in the theater to see Movie A. Nine more people walked into the theater. How many people are now in the theater? Draw a picture and write a number sentence for this story. Write the answer with a label.

Number sentence _____
Answer _____

2. Find the sums: 50 + 10 = ____ 70 + 10 = ____ 10 + 90 = _____ 60 + 10 = _____

3. Johnny has 10 pennies and 36 dimes. How many total coins did he have? _____
Number Sentence _____
Answer _____

4. Till in the missing numbers on this piece of hundred chart.

	54			
			76	

5. Find the sums: 78 + 10 = ____ 62 + 10 = _____ 10 + 32 = _____ 22 + 10 = _____

6. I have 67 cents. How many dimes and pennies is that? _____
I have 14 cents. How many dimes and pennies is that? How many dimes and pennies is that altogether?

Dimes	Pennies
+	

Total = Total =

7. Draw a picture to show four hundred seventy-eight.
(Use a large square to represent 100; use a long rectangle for 10; use a small square to represent 1.)

8. Find the answers: 19 cents + 43 cents = ____ 41 cents + 35 cents = ____

9. Richard has ninety-two cents. How many dimes is that? _____
How many pennies is that? _____ What does the number sentence look like? _____

10. There are 68 stickers in Susan's collection. She then bought 18 more. How many stickers does Susan have now?
Number sentence: _____
Answer:_____

11. Find the answers: 10 less than 68 = _____ 10 more than 31 = _____

Answer Key/Scoring Rubric:

Answer Key

Total = 46 points; 37 points or above for mastery

1. Students should have drawn a picture of 10 people and a picture of nine people and written the number sentence:
10 + 9 = and the answer: 19 (3 points)
2. 60; 80; 100; 70 (4 points)
3. Johnny had 46 coins; Number sentence: 10 + 36 = and the answer = 46 (3 points)
4. First column = 53, 63, 73; Second column = 64, 74; Third column = 55, 65, 75; Fourth column = 56, 76; Fifth column = 57, 67, 77 (13 points)
5. 88; 72; 42; 32 (4 points)
6. 67 = 6 dimes and 7 pennies; 14 = 1 dime and four pennies; Altogether = 81 total coins (7 points)
7. Students should have drawn four large boxes, seven long rectangles, and eight small boxes (3 points)
8. 62; 76 (2 points)
9. 9 dimes; two pennies; Number Sentence: 90 + 2 = and the answer is 92. (3 points)
10. Number sentence: 68 + 18 = and answer is 86 stickers (2 points)
11. 58; 41 (2 points)

Total _____/46

Points	Percentage	Points	Percentage
35	76	41	89 *mastery
36	78	42	91 *mastery
37	80 *mastery	43	93 *mastery
38	83 *mastery	44	96 *mastery
39	85 *mastery	45	98 *mastery
40	87 *mastery	46	100 *mastery