Curriculum Sample for 5th Grade Math

Grade Level	5th	**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 able to use place value understanding and properties of operations to complete multi-digit arithmetic. Students will be expected to know how to find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division.		
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.*	5.NBT.7 - Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.		
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 be given a quiz that has Students solving word problems containing answers in the hundredths' place in which they need to create an equation, solve, and describe the reasoning used. Furthermore, Students are asked to solve addition and subtraction problems to the hundredths' place. Students will use strategies based on place value and the properties of operations to solve these problems. Next, Students are asked to solve multiplication and division problems containing answers in the hundredths place using strategies based on place value and the properties of operations.		
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 (whichever applicable) must be attached to the curriculum sample.*	In the summative assessment Students will be asked to add and subtract decimal numbers to hundredths using strategies that were taught during instruction (based on place value, properties of operations, and/or the relationship between addition and subtraction.) Students will also be asked to multiply and divide numbers to the hundredths' place sing these same strategies. Question 1 = 2 points; Question 2 = 4 points; Question 3 = 2 points; Question 4 = 4 points; Question 5 = 4 points; and Question 6 = 3 points There are a total of 19 points; 16 points or higher = mastery which is set at 80%.		
Materials/Resources Needed	Teacher's Edition Saxon Book 65, Volumes 1 and 2; Student Saxon Books; math journals; iPads; Assessment; Answer Key		

Lesson (add as needed)	**Instruction**	**Student Activities**
1	Teacher begins class by passing out Facts Practice Test F. Students complete as fast as possible. Teacher then states, "Recall that when we add or subtract money, we write the numbers so that the decimal points are vertically aligned. This way, we are sure to add digits with the same place value. We insert the decimal point in the answer below the other decimal points." Teacher continues, "We use the same procedure to add or subtract any decimal numbers. We keep the decimal points in line. This way, we add or subtract digits with the same place value. The decimal points stay in a straight line." (Teacher demonstrates on the board.) Teacher writes the following problem on the board, "The roof was 6.37 meters above the ground. The ladder could reach only 4.2 meters. The roof was how much higher than the ladder could reach?" Teacher then solves the problem on the board and demonstrates, "This is a story about comparing, which we solve by subtracting. We may attach zeros to the end of a decimal number without changing the value of the number. We attach a zero to 4.2 so that there are no empty places in the problem. Then we subtract. Teacher then displays the problem, "3.45 + 6.7 on the board. Teacher states, "We line up the decimal points vertically so that we add digits with the same place value. Think about the meaning of each decimal number to be sure your answers are reasonable. Teacher continues to give examples of adding and subtracting decimal numbers on the board.	Students complete Math Facts Test F. Students remember how to add and subtract money. Students respond to Teacher's questions. Students solve Teacher's example problems on the board. Students get out their iPad and practice on the website: http://www.ixl.com/math/grade-5/add-and-subtract-decimal-numbers

	Teacher then instructs Students to get out their iPads and go to the website: http://www.ixl.com/math/grade-5/add-and-subtract-decimal-numbers to practice adding and subtracting with decimals. Teacher assigns Students "Lesson Practice 73."	
2	The following day, Teacher begins the lesson by having Students complete Facts Practice Test I. Teacher then states, "Sometimes we need to add whole numbers and decimal numbers in the same problem. Teacher writes on the board, "6.2 + 3 + 4.25 =." Teacher then explains, "In order to add digits with the same place value, we align decimal points. In this problem the whole number 3 has the same place value as the 6 and the 4. We place a decimal point to the right of the 3 and align decimal points. We may fill empty decimal places with zeros if we wish." Teacher then writes, "24. 6 – 8 =." Teacher explains, "We place a decimal point to the right of the whole number 8 and then align decimal points before subtracting. We may fill the empty decimal place with a zero if we wish." (24.6 – 8.0 =.) Teacher demonstrates more examples and has Students complete them on the board and talk the problems through to the class. Teacher encourages Students to describe each step of the problem's solution. Next, Teacher instructs Students to get out their iPads and practice addition and subtraction problems with decimals on the website: http://www.ixl.com/math/grade-5/complete-the-addition-or-subtraction-sentence	Students complete Facts Practice Test I. Students respond to Teacher's questions. Students solve Teacher's example problems on the board. Students get out their iPads and go to the following website to practice adding and subtracting decimals: http://www.ixl.com/math/grade-5/complete-the-addition-or-subtraction-sentence
3	In the beginning of the class, Teacher states, "First, in Math today, we are going to practice our math facts with sheet G. Do the	Students practice Math Facts Sheet G.

	sheet as accurately and quickly as you can." After Students finish, Teacher states to Students, "Today we will learn to use the multiplication algorithm to multiply a two- or three-digit number by a two-digit number." Teacher explains, "When we multiply by a two-digit number, we really multiply twice. We multiply by the tens, and we multiply by the ones." Teacher states, "Let's multiply 43 by 12. Since 12 is 10 + 2, we may multiply 43 by 10 and 43 by 2. Then we add the products. Teacher explains, "When we multiply by a two-digit number, we do not need to separate the problem into two problems before we start." Teacher requests that Students get out their math journals and write the following problems in their notes. "0.35 x 25 =; $0.62 x 23 =; 1.58 x 41 =; and 2.02 x 3 =" Teacher then explains how to solve the first equation, "We ignore the decimal point until we have a final product. After multiplying, we place the decimal point. The answer is 8.75." Teacher gives Students several more examples on the board for Students to come up and try to solve. Teacher then instructs Students to get out their iPads and practice multiplying decimals on the website: http://www.ixl.com/math/grade-5/multiply-a-decimal-by-a-multi-digit-whole-number. Teacher assigns Students "Practice Set 51."	Students listen to Teacher's instruction. Students solve problems in their math journals. Students solve problems on the board. Students get out their iPads to practice multiplying decimals on the website: http://www.ixl.com/math/grade-5/multiply-a-decimal-by-a-multi-digit-whole-number.
4	The following day, Teacher begins class by stating, "Today we will learn how to divide a decimal number by a whole number." Teacher explains, "Dividing a decimal number by a whole number	Students listen to Teacher's instruction. Students check division problems on the board.

	is like dividing money by a whole number. Before doing any division, you must first evaluate the problem. Ask yourselves these questions: 1. Is the divisor a whole number? 2. Is the dividend a decimal number? 3. Where should I put the decimal point in the quotient? Teacher writes the following problem on the board: "4.8/2 =" and states, "We are dividing by 2, which is a whole number. We place the decimal point in the answer directly above the decimal point inside the division box. Then we divide." Teacher then writes the problem "0.15/3 =" on the board. Teacher displays, "We rewrite the problem using a division box. The decimal point in the answer is 'straight up.' We divide and remember to fill empty places with zeros. Teacher then instructs Students to get out their iPads and practice multiplying decimals on the website: http://www.ixl.com/math/grade-5/division-with-decimal-quotients. Teacher assigns Students "Practice Set 117."	Students answer problems on the board. Students get out their iPads and practice multiplying decimals on the website: http://www.ixl.com/math/grade-5/division-with-decimal-quotients.
5	Teacher reviews the information Students learned in math about operations with decimals. Teacher passes out the assessment to Students. Teacher collects the assessment.	Reviews and contemplates all four operations with decimals (addition, subtraction, multiplication, and division.) Students complete the assessment. Students pass in homework.

Summative Assessment for 5th Grade Math:

Assessment

Name _____ Date _____

Directions: Please complete the following addition, subtraction, multiplication, and division problems and divide decimals to hundredths, using models and drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

1. Carrie was asked to run to the fence and back. It took her 23.4 seconds to run to the fence and 50.9 seconds to run back. How many seconds did the whole trip take? Please write the equation, solve, and explain the reasoning used.

   _____

2. Solve:

53.46	72.49	53.46	83.52
- .57	- .43	- .29	- .38

3. Maria ran 100 yards in 13.8 seconds. Mike ran 1 second slower than Maria. How long did it take Mike to run 100 yards? Please write the equation, solve and explain the reasoning used.

   _____

4. Solve:

7.25	9.35	6.85	4.75
- 7.00	- 6.00	- 4.00	- 1.00

5. Solve:

32	1.47	48	8.7
x 12	x 34	x .64	x 32

6. Solve:

0.52/4 =	0.65/5 =	0.35/7 =	0.16/4 =

Answer Key/Scoring Rubric:

Answer Key

The assessment has a total of 19 points; 16 points or higher = mastery

1. 23.4 + 50.9 =; 74.3 seconds; Student should have identified a strategy that helped them solve the problem.
2. 52.89 72.06 53.17 83.14
3. 13.8 – 1.0 = 12.8; Student should have identified a strategy that helped them solve the problem.
4. 0.25 3.35 2.85 3.75
5. 384; 49.98; 29.72; 26.10
6. 0.13; 0.13; 0.05; 0.04

Total points = _____/19

Comments:

Points	Percentage
13	68
14	74
15	79
16	84 *mastery
17	89 *mastery
18	95 *mastery
19	100 *mastery