Grade Level	4th grade	**Content Area**	Math
Course Title (grades 9-12 Only)			
Length of Unit	11 days total	**Time of Year**	Fall, 2nd qtr
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	Students should be aware of place value in multi-digit numbers, arrays and creating facts for arrays, comparing numbers utilizing number lines as well using a four-step plan to solve problems. Students should have knowledge of specific properties as they relate to addition, subtraction, and multiplication. Students should be aware of vocabulary, dividend, divisor, fact family, factor, product, and quotient. Students should have an understanding of inverse operations and how repeated subtraction is related to 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.*	Current school programming supports peer reviewed research based interventions and strategies by way of Applied Behavioral Analysis (ABA), Discrete trial Therapy(DTT) , and the use of Pivotal Response Therapies.		
Standard Number and Description *List the Number* and full description for the required Standard.*	4.NBT.6. 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. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.		
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.*	The Summative Assessment will take a look at student's ability to find whole number quotients and remainders with varied dividends up to four digits, by a one-digit divisor. Students will have to demonstrate knowledge with vocabulary, and related concepts as well as how to represent the concepts by way of arrays and area models. Students will complete a 12 question assessment that will cover concepts from the unit.		
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.*	Mastery =15/18 or higher A copy of the Assessment along with answer key are provided below.		
Materials/Resources Needed	Whiteboard or Chalk Board		

	Array picture cards, Various concepts skills worksheets-Unit Division, Homework: Division sheets Paper, pencil Real-World Problem Solving Leveled book.

Lesson (add as needed)	**Instruction**	**Student Activities**
1	The teacher will begin the unit by having students see if they are ready to address the skills related to finding whole number quotients and remainders. The teacher will pass out the Pre-Assessment that students will complete independently. The pre assessment contains 15 questions and looks at students' strengths with the abilities to address repeated addition, making arrays and number related patterns. Based on the results of the pre-assessment, the teacher can plan and provide differentiation to address the new concepts students will be presented with. After each student is done with their assessment, they will turn it in. The teacher will then review some division-multiplication concepts and vocabulary. The teacher will have students participate in a vocabulary and concepts activity, comprising of 13 specific vocabulary words/concepts, the answer choices will be written on the board for students to utilize. The teacher will draw a model of the listed concept or property, and students will need to write down the correct answer on a sheet of paper, (ex: teacher will write 64/8 =8 what is the number	Students will take a pre-assessment independently. Students will turn in their pre-assessment. Students will pull out their math journals and participate in the concept and vocabulary activity being led by the teacher, they will write the examples the teacher puts up on the board, Students will then complete the 13 question activity by following along as the teacher puts up the problems on the board. Once all the students have completed their sheets, they will trade with a peer as the teacher leads the class in reviewing the problems. Students will share their answers and participate in answering questions. Students will then need to record their homework, for the night, which is a foldable on creating factors and multiples of whole numbers.

	64 in the problem called?(answer would be dividend), 2x20=20, 20x10=20-What does this concept represent (answer= Identity property of multiplication). Once the teacher has gone through all 13, all students are to trade papers with the person behind them and as a group the teacher will review what the correct answers are, calling on students to volunteer the answers. Once completed with the review of concepts, the teacher will assign homework. The teacher will pass out a foldable that students will take home and complete, The teacher will lead students in making their foldable correctly. **Homework:** Students will be given foldable to take home, on the foldable they are ***Creating Factors and Multiples of Whole Numbers.***	
2	The teacher will explain that students will be looking at fact families by: drawing arrays, and looking at making fact families showing inverse relationships related to multiplication and division. The teacher will have students pull out their math journals as she guides them in direct instruction activity. The teacher will put up a basic word problem. (ex: Paul and James went to Castles and Coasters. They each played 6 games that cost 5 dollars each. What was the total cost of the games they played?) The teacher will demonstrate writing a multiplication sentence and division sentence from the question. 6x 5= 30 and 30/6=5 The teacher will then go through presenting an array for the problem. The teacher will pull up 15 problems on the board that she will work through with the whole group with the class. They will relate	Students will pull out their math journals as the teacher leads the class in looking at fact families and arrays. Students will practice making multiplication and division sentences. From there students will have an opportunity to make arrays from the created sentences. Students will also participate with the teacher in whole group instruction working through 15 concept problems. Students will be called up to help in completing problems. After whole group instruction, students will be given a picture array card where they will need to write the corresponding multiplication and division fact family for the array. Each student will drop their card in the in-class tray. Students' answers will be reviewed the next day.

	to writing a fact family for an array **or** a set of numbers. At the end of the class period before students leave, they will be given a card with an array on it. On the back of the card they will need to write the corresponding multiplication and division fact family for the array. Each student will need to drop their card in the class work box, before leaving class.	
3	The teacher will **review** with students about the operation of subtraction and division being very closely related and how repeated subtraction is the process of completing division. The teacher will review **divisor**, **dividend**, **quotient**, and **remainder**. The teacher will start off with base example problem on the board. (ex:3$\overline{)136}$ The teacher will explain looking at place values in the dividend in order to determine how far we will be able to take the divisor into the numbers. In this case. We cannot pull 3 out of the one in the hundreds place, but we could pull 3 out of 13. We would just need to look at how many times we could pull it out f 13. This is where understanding and multiplication fact fluency are important. Students will be asked how many times they can pull 3 out of 13. The teacher will have students guide her to the right answer (4). The teacher will then demonstrate the subtraction. And pull down the six in the ones place value. Then they would look at how many times 3 could be pulled out of 16. And then we are left with a remainder of 1. So 3 goes into 136 45 times with a remainder of one. The teacher will ask if a student can come up and demonstrate what and array/ area model for this particular problem would look like. The teacher will help guide the student make 3 groups of 45 dots,	The teacher will pull out the array cards that she passed out the day before. She will present the array from the card on the board and have each student come up and demonstrate what their multiplication and division fact families were for the array. Students will then follow along with the direct instruction from the teacher on division examples and taking notes in their journal. Students will then work in partners to complete rectangular arrays for the 5 presented problems that the teacher has placed on the board. Students should be involved in discussion about steps taken to solve their division problems as well as how to construct their arrays. Once students have completed their arrays they will need to turn them in with both of their names on their sheet. Then students will need to record their homework for the night.

	and then demonstrate the remainder of 1 outside of the array. The teacher will then explain that students will complete 5 division problems that are on the board with remainders at their desk independently. Once completed they will work with their assigned math partner to compare their answers and the steps they took to get to get to their answers then, create rectangular arrays or area models to demonstrate the calculation. While students are working independently, the teacher will be transitioning around the classroom to monitor individual skills. During the partner groups, the teacher will be looking at the discussion students are having regarding solving the problems and each student's ability to cooperatively demonstrate the arrays or area models. **Homework:** *Mixed Division Sheet/ Draw arrays-area models to illustrate relationships*. This Particular lesson will continue in variation for 3 additional days.	
4	Today, students will be working from the Real-World Problem Solving Leveled Books. The teacher will introduce the book that the students will be working from. This leveled book will connect math and social studies concepts together. Students will be looking at surveys, and comparing the results of surveys, students will also utilize skills in reading maps, charts and interpreting data. Teacher will review related vocabulary to social studies connections. The teacher will present the leveled book to the whole group. As a group the teacher will guide the class through various problems and scenarios presented in the book. The concepts relate to repeated addition subtraction, grouping and divisions of sets of information. Once done with the presented concepts in the book.	Students will follow along as they review the Real-World Problem Solving Leveled Books. Students will participate in answering various questions in the leveled book as a whole group. The teacher will call on various students as well have volunteers help in working through the book. Students will then complete an independent activity by addressing 5 related questions put on the board that connect to the Real-World Problem Solving Leveled Book. Students will turn in their sheets when done and begin to record their homework for the night. If students finish a bit early, they can begin working through their homework.

	The teacher will present 5 questions on the board that the students will complete independently at their seats. At this time the teacher will monitor and provide support to students who need help with the questions. Once done students will turn in their sheets and record their homework for the night. **Homework:** Conduct a survey of a sample of at least 15 people. Assignment will be due, in 2 days. Data from the survey will be used in an in-class project. *This is a 2 day lesson.*	
5	The first 10 minutes of class will be utilized to allow students to complete their daily math questions-set of 5. The teacher will call identified students up from the intervention group for one-on-one conferencing and support with ***oral assessment*** review with concepts. While the teacher is working one-on-one with a student, remaining students will be participating in mini-review session with a partner or paraprofessional, on concepts covered in the unit. Students will be allowed to utilize their math journal to complete the math exploration concept sheet of 15 problems. **This is review prior to the assessment for the next day**.	Students are to complete their daily math question sets of 5 questions. Students will either participate in one-on-one conference with teacher which relates to intervention supports or will be working on math exploration sheet of concepts that they have been working on in preparation for the upcoming summative assessment.

Name:_____Date:_____

4th Grade Math 4.NBT.6

1. What is the quotient?

   _____

2. What is the dividend?

   _____

Identify the place value of the underlined digit.

3. 45,0<u>3</u>4_____
4. 25,897,345 _____

Find each unknown number. Identify the property or rule.

5. 12 x 4 = ___ x 12
6. ___ / 120= 1

Solve

7. Kevin wants to buy 8 boxes of bouncing balls for his store. Each box contains 5 bags of balls and each bag has 20 balls. How many balls will Kevin be purchasing?

_____

Solve

8. $6\overline{)4658}$

   What is the quotient? _____

   What is the remainder? _____

$5\overline{)1798}$

What is the quotient?_____

What is the remainder?_____

$5\overline{)554}$

What is the quotient?_____

What is the remainder?_____

9. To build an array for $4\overline{)91}$

   How many columns would you have? Will there be any remainders?

   _____

10. Build a rectangle array for 6 x 4. Then write the inverse fact family.

    _____

11. Using the equation 8 x 6 =48, describe how multiples and factors are related.

    _____

    _____

12. **Reflection Question.** How are multiplication and division related?

    _____

Name:_____Date:_____

1. What is the quotient? (1pt)
   _The answer in the division problem_____

2. What is the dividend? (1pt)

   _The number(s) _being divided into_____

Identify the place value of the underlined digit.

3. 45,0<u>3</u>4_____tens_____(1pt)

4. 25,<u>8</u>97,345 ____Hundred-Thousands____(1pt)

Find each unknown number. Identify the property or rule.

5. 12 x 4 = _4__ x 12 ___commutative property_(1pt)
6. _1__ / 120= 1 ____ones in division____(1pt)

Solve

7. Kevin wants to buy 8 boxes of bouncing balls for his store. Each box contains 5 bags of balls and each bag has 20 balls. How many balls will Kevin be purchasing?

_____800 balls_(1pt)_

Solve 776 R2

8. 6⟌4658 (2pt)

   What is the quotient? ____776_____

   What is the remainder? ___2_____

359 R 3

5⟌1798 (2pt)

What is the quotient?__359_____

What is the remainder?___3_____

110 R 4

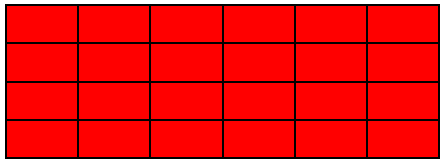
5⟌554 (2pt)

What is the quotient?___110_____

What is the remainder?____4____

9. Write a fact family for the set of numbers (56,7,8) (1pt)
   _7 x8=56, 8 x7=56 , 56/7=6, 56/8=7__

10. Build a rectangle array for 6 x 4. Then write the division fact family. (1pt)



_____24/ 6=4, 24/4=6_____

11. Using the equation 8 x 6 =48, describe how multiples and factors are related.(1pt)

    Eight and six are factors of 48. And 48 is then a multiple of six and eight.

12. **Reflection Question**. How are multiplication and division related?(2pt)
    They are the same in that they both group numbers.
    They are different in that multiplication makes numbers larger, division makes them smaller.