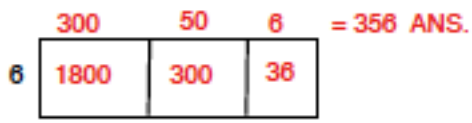
Grade Level	**4**	**Content Area**	**Mathematics**
Course Title (grades 9-12) Only			
Length of Unit	3 days	**Time of Year**	Fall (October - November)
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	All knowledge acquired in Common Core Standards sequenced lessons prior to 4.NBT.6 including mastery of the operations of multiplication, subtraction, addition of 2 and 3 digit whole numbers, understanding base 10, knowledge of place values to 100		
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: 4 Domain: Numbers and Operations in Base Ten (NBT) 4.NBT.6 Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic Standard: #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 relationships 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*	Students will solve a series of problems related to five concepts including: place value, expanded formats, commutative properties of multiplication and division and constructing a rectangular array.		
Scoring Scale and Mastery Level	School grading scale as follows: 94% - 100% = A 87% - 93% = B 80% - 86% = C 70% – 79% = D Needs remediation 69% - 0% = Needs remediation 36 questions @ 2 points each = 72 points = 100% **56 points (80%) = Mastery of Standard 4.NBT.6**		

Materials/Resources Needed	Strayer-Upton second book or Sadlier-Oxford Progress in mathematics Grade 4 w/ workbook, individual white boards, Base 10 blocks, multiplication and division flashcards	
Lesson **(add as needed)**	**Instruction**	**Student Activities**
1	***Lesson 1 Objective: I can use expanded forms in addition to show the numerical value of large numbers.***	
	1 - Teacher welcomes students to class and states the day's posted objective.	Students repeat the objective after the teacher.
You Do	2 - Teacher leads a review of identifying place value in three digit numbers by displaying the number 831 and pointing to each digit for students to record values on individual white boards. – Formative Assessment	Students record values of indicated numbers on their white boards.
	3 - Teacher repeats #2 using additional three-digit numbers until mastery of this skill has been verified for all students.	Students record values of additional numbers on their white boards.
	4 - Teacher introduces the academic terms "expanded format" and "numerical value" asking students to add these terms/definitions to their Math Journals.	Students write definitions in Math Journal.
I Do	5 – Teacher models writing the expanded form of 831 as 800 + 30 + 1.	Students, as a class, practice expanded form by providing the numerical values for the teacher to write.
We Do	6 - Teacher provides guided practice by having the class together provide the expanded forms for 546 and 375.	Students will be given opportunities to strengthen their skills of this standard by participating in math Games on the white board. .
I Do	7 - Teacher introduces rigor to the practice by modeling the expanded form of the four-digit number 2,796.	
We Do	8 – Teacher provides index cards with three 4-digit numbers and asks students to work with partners to write each number in expanded form.	
We Do	9 - Teacher has pairs exchange cards and repeat the practice.	
We Do	10 - Teacher displays a 4-digit number on the class white board and asks students as a group to identify the numeric value of each number.	Students record values of indicated numbers on their white boards.
You Do	11 – Teacher asks students to add their own examples of expanded form and numerical value to definitions in their Math Journals. - Formative Assessment	Students independently provide examples of the academic vocabulary for concepts in this lesson.
	12 - Teacher asks class to read today's objective and class is dismissed.	Students read the objective.
2	***Lesson 2 Objective: I can create models including equation, remainders and arrays to explain math problems.***	
	1 - Teacher welcomes students to class and states the day's posted	Students repeat the posted objective.

	objective.	
We Do	2- Teacher has students pair up to check each other's examples written is Math Journals yesterday. (Teacher has already checked journals and knows which students need revision and support.)	Students review yesterday's lesson by checking a partner's examples for accuracy.
	3 - Teacher provides definitions for the new academic vocabulary words "equations", "remainders" and "arrays" and instructs students to add the definitions to their Math Journals.	Students add to their Math Journals.
I Do	4 - Teacher displays Base 10 blocks showing the visual representation for 256. Then divides the blocks by 4. This may require exchanging 100s with equivalent 10 rods or 10s with ones' blocks.) Teacher writes the equation to show the completed computation. 256/4=64.	
We Do	5 - Teacher divides the class into four groups and supplies Base 10 blocks to each group. Teacher then gives the problem 180/4=__ (45) for students to complete and record with their team.	Students work in teams to solve problem in steps 5 & 6.
We Do	6 - Teacher provides another problem with a remainder 602/4= __. (150 R 2)	
I Do	7 - Teacher introduces "arrays" as a way to divide bigger numbers by presenting this array:	
We Do	8 - Teacher leads students to complete another array for the same problem. 	Students complete an array with teacher guidance.
	9 - Teacher asks students to "Think/Pair/Share" on this question: What advantage do arrays have over Base 10 blocks when solving division of large numbers? Teacher circulates to listen to sharing.	Students have "Think Time", then pair up and share their reasoning.
	10. Teacher reviews the academic vocabulary for Lessons 1 & 2 with the group.	
	11 - Teacher asks class to read today's objective and class is dismissed.	Students read the objective.

3	***Lesson 3 Objective: I can use arrays or equations to show the relationship between multiplication and division.***	
	1 - Teacher welcomes students to class and has the class read the day's posted objective.	Students read the objective.
You Do	2 - Teacher reviews yesterday's vocabulary with the class and asks them to add a sample to their Math Journals showing "an equation" and "an array".	
	3 - Teacher leads a "Whip Around" asking students randomly to go to the board and write their examples.	Students at their seats are responsible to rate the work of students at the class white board.
I Do	4 - Teacher reminds students that last year they learned the commutative properties of addition and subtraction and provides the models 8+7=15and 15-8=7. Teacher also models the inverse of each equation telling students each set of facts are the same as fact families they have learned about since 1st grade.	
We Do	5 - Teacher distributes multiplication and division flashcards one to each student and instructs them to find all circulate until they have all mutual equations.	Students find the 3 matching facts in their fact family and stand together.
	6 - Teacher leads a group sharing of the commutative property at work in these two operations.	Students participate in a group sharing session.
You Do	7 - Teacher instructs students to add a definition and samples of the commutative properties to their Math Journal. Teacher circulates to assess understanding of this concept.	Students add to their Math Journals.
	8 – Teacher administers the Summative Assessment.	Students complete their Summative Assessment.
	9 - Teacher asks class to read today's objective and class is dismissed.	

Name _____

Copy and complete each exercise on a separate sheet of paper.

Write a related multiplication fact.

1. $32 \div 8 = 4$
2. $45 \div 9 = 5$
3. $36 \div 6 = 6$
4. $63 \div 7 = 9$

Write a related division fact.

5. $4 \times 3 = 12$
6. $8 \times 9 = 72$
7. $6 \times 8 = 48$
8. $5 \times 7 = 35$

Write the rule. Complete the pattern.

9. 71, 66, 61, 56, ?, ?
10. 1, 10, 19, 28, ?, ?

Estimate. Then divide.

11. $7\overline{)34}$
12. $3\overline{)28}$
13. $8\overline{)47}$
14. $6\overline{)92}$
15. $4\overline{)87}$
16. $6\overline{)26}$
17. $5\overline{)660}$
18. $8\overline{)274}$
19. $7\overline{)\$9.45}$
20. $6\overline{)660}$
21. $2\overline{)406}$
22. $4\overline{)506}$
23. $5\overline{)720}$
24. $7\overline{)745}$
25. $3\overline{)704}$
26. $8\overline{)7258}$
27. $6\overline{)2622}$
28. $7\overline{)\$8.47}$
29. $8\overline{)\$19.20}$
30. $9\overline{)\$12.60}$

Use the order of operations to solve.

31. $28 \div 4 + 56 \div 8 - 9$
32. $48 \div 6 \times 9 - 6 + 3$

Find the mean.

33. 137, 75, 83, 423, 242
34. \$6.33, \$3.49, \$5.70, \$1.48

Problem Solving

Use a strategy you have learned.

35. Jake can fit 5 pictures on a page in his new photo album. He has 18 pictures of his friends. How many pages will he use?

Tell About It

Explain your reasoning.

36. Is the number 8559 divisible by 2, 5, 10, and/or 3? How did you decide?

Copyright © by William H. Sadlier, Inc. Permission to duplicate classroom quantities granted to users of *Progress in Mathematics*.

Name Answer Key

Post T
Chapter

Copy and complete each exercise on a separate sheet of paper.

Write a related multiplication fact.

1. 32 ÷ 8 = 4
   4x8=32
2. 45 ÷ 9 = 5
   5x9=45
3. 36 ÷ 6 = 6
   6x6=36
4. 63 ÷ 7 = 9
   9x7=63

Write a related division fact.

5. 4 × 3 = 12
   12÷4=3
6. 8 × 9 = 72
   72÷8=9
7. 6 × 8 = 48
   48÷6=8
8. 5 × 7 = 35
   35÷5=7

Write the rule. Complete the pattern.

9. 71, 66, 61, 56, ?, ?
   Rule: -5, 51, 46
10. 1, 10, 19, 28, ?, ?
    Rule: +9, 37, 46

Estimate. Then divide.

11. 7)34 4R6
12. 3)28 9R1
13. 8)47 5R7
14. 6)92 15R2
15. 4)87 21R3
16. 6)26 4R2
17. 5)660 132
18. 8)274 34R2
19. 7)$9.45 $1.35
20. 6)660 110
21. 2)406 203
22. 4)506 126R2
23. 5)720 144
24. 7)745 106R3
25. 3)704 234R2
26. 8)7258 907R2
27. 6)2622 437
28. 7)$8.47 $1.21
29. 8)$19.20 $2.40
30. 9)$12.60 $1.40

Use the order of operations to solve.

31. 28 ÷ 4 + 56 ÷ 8 − 9 5
32. 48 ÷ 6 × 9 − 6 + 3 69

Find the mean.

33. 137, 75, 83, 423, 242
    192
34. $6.33, $3.49, $5.70, $1.48
    $4.25

Problem Solving

Use a strategy you have learned.

35. Jake can fit 5 pictures on a page in his new photo album. He has 18 pictures of his friends. How many pages will he use?
    18÷5=3 R 3; 4 pages

Tell About It

Explain your reasoning.

36. is the number 8559 divisible by 2, 5, 10, and/or 3? How did you decide?
    Divisible by 3. Sum of digits is 27 which is divisible by 3.

63L Chapter 5