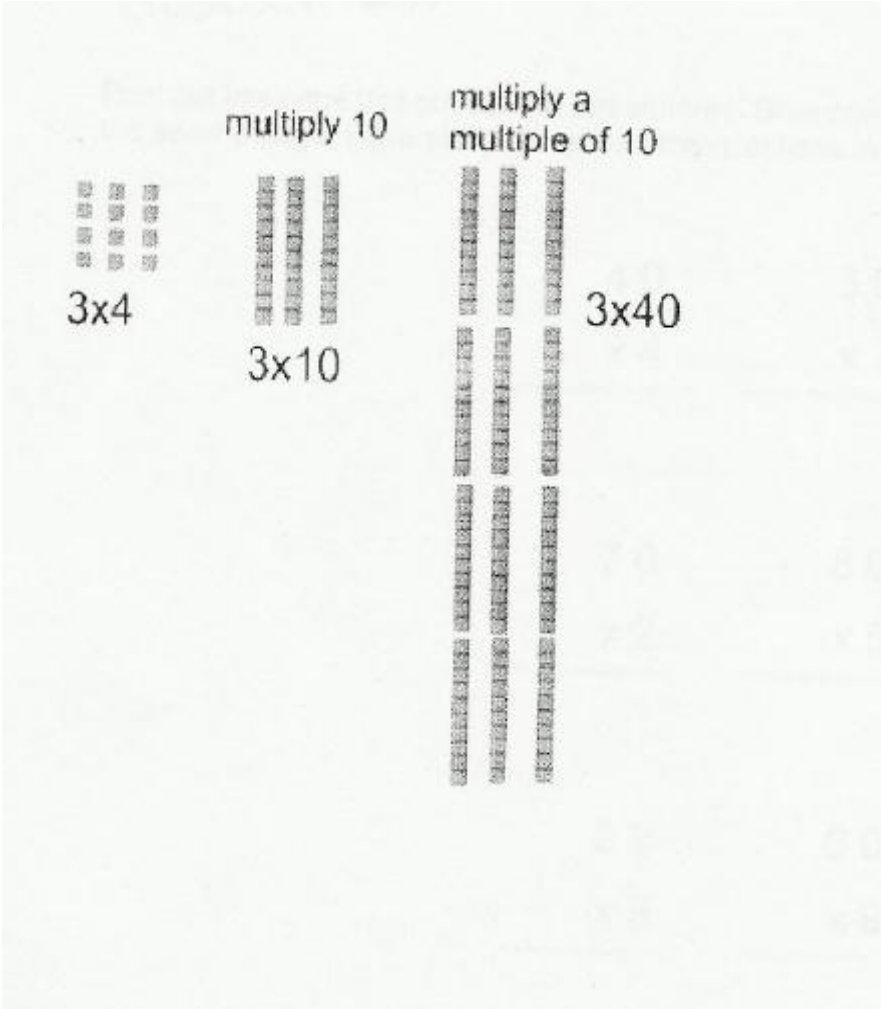
Grade Level	**3**	**Content Area**	**Mathematics**
Course Title (grades 9-12) Only			
Length of Unit	5 days	**Time of Year**	December
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	All knowledge acquired in Common Core Standard's sequenced lessons prior to 3.NBT.3, Students must be able to: identify multiples of 10, display mastery of single digit multiplication facts and understanding of the relationship between addition and multiplication, work effectively with base 10 blocks, understand place value, round to the next ten.		
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: 3 Domain: Numbers and Operations in Base Ten (NBT) 3.NBT.3 Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic Standard: #3 – Multiply one-digit whole numbers by multiples of 10 in the range 10-90 (e.g., 9x80, 5x60) strategies based on place value and properties of operations		
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 measure each student's ability to visualize and calculate the multiplication algorithm. Students will demonstrate their mastery by completing a test requiring them to create multiplication expressions showing the commutative properties of addition and multiplication and solve multiplication problems (single digit x 10).		
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 problems @ 2 points each = 72 points = 100%Mastery **<u>56 points = 80% Mastery 3.NBT.3</u>**		
Materials/Resources Needed	Harcourt Math – Problem solving and Reading Strategies workbook – linking cubes - Base "ten" blocks, addition and multiplication flashcards, whiteboards, timer, worksheets		

Lesson (add as needed)	Instruction	Student Activities
1	***Lesson 1 Objective: I can use repeated addition to show how addition and multiplication are alike. (Commutative Principle)***	
	1 - Teacher welcomes students to class and states the day's posted objective.	Students echo reading of the objective.
We Do	2 – Teacher reviews the commutative property of addition by having students form mutual pairs using addition flashcards.	Students find their math fact match. (Ex. 2+4 = 4+2).
I Do	3 - Teacher tells the class that the same property hold true for multiplication. Teacher presents a laminated Hundreds Chart and using a water-based marker models how 10 x 2 and 2 x 10=20 by "x"ing out numbers and recording the problems as they are solved.	
We Do	4 - Teacher wipes laminated chart and solicits another single digit number to multiply by 10 with the class' input to count on.	Students record the digits on whiteboards as the sample progresses.
We Do	5 - Teacher form students into pairs and challenges them to write as many mutual pairs for single digit numbers x 10 as they can. Teacher circulates to assess understanding.	Students work with partners using whiteboards.
	6 - Teacher asks students to consider how knowing this principle can help them do mathematical problems more quickly. Teacher leads a "Whip Around" for class input.	Students think and "pair share".
You Do	7. Teacher provides a worksheet of addition problems with single digit numbers.	Students complete worksheet.
	8 -Teacher asks class to read today's objective and class is dismissed.	Students read the objective.
2	***Lesson 2 Objective: I can create models to show the commutative principle in multiplication.***	
	1 - Teacher welcomes students to class and states the day's posted objective.	Students echo read the objective.
You Do	2 - Teacher focuses students on the academic vocabulary term "commutative principle" asking students to create an example on their whiteboards.	Students create problems demonstrating the principle.
We Do	3 - Teacher further reviews the commutative property of multiplication by having students form mutual pairs using multiplication flashcards. (Formative Assessment)	Students find their math fact match. (Ex. 2x4 = 4x2).
I Do	4 - When teacher is sure the commutative principle is solid, multiplication by 10s is introduced. The teacher models the problem10 x 3 using linking cubes first showing 3 sets or 10 and the ten sets of 3. Teacher writes the problem as each step is completed.	
We Do	5 - Teacher provides a guided practice using 20 cubes and asking for student input to solve and record the problem.	Students assist teacher in completing and recording the problem.
	6 - Teacher assigns pairs to create two cube representations of a multiple of 10 number and record both number representations on a	Students use cubes to model and write the problems.

We Do We Do You Do	whiteboard. 7 - Teacher leads a "gallery walk" so students can see all multiples of 10 shown both ways. 8 - Teacher reminds students that they determined yesterday that the commutative principle should speed up their ability to do math because many problems are the same only the digit order has changed. Teacher provides a worksheet of multiplication problems with single digit numbers. 9 -Teacher asks class to read today's objective and class is dismissed.	Students participate in a "gallery walk". Students complete worksheet. Students read objective to teacher.
3 You Do I Do We Do We Do I Do	***Lesson 3 Objective: I can demonstrate my understanding of the commutative principle in multiplication.*** 1 - Teacher welcomes students to class and leads them in reading the day's posted objective. 2 - Teacher reviews with students the academic vocabulary term "commutative principle" instructing students to create their own definition and examples in their Math Journals. 3 - Teacher calls on several students to share their work. 4 - Teacher introduces academic vocabulary for parts of a multiplication problem: multiplicand, multiplier, product. 5 - Teacher presents the problem 3x5=15 and asks students to identify each part using the academic vocabulary. 6 - Teacher presents another problem 7 x 10 = 70 and asks students to identify the parts. 7- Teacher instructs students to create a multiplication problem in their Math Journal and label the parts. 8 - Teacher uses Base 10 blocks to represent a multiple of ten "product". Teacher demonstrates writing the multiplicand and multiplier for this product both ways using the commutative principle emphasizing the academic vocabulary. 9 - Teacher provides Base 10 blocks for students to manipulate and record problems with a partner. 10 - Teacher provides 3 Base 10 models and instructs students to fold a paper in thirds. Students are instructed to write the commutative problems for each model one to a strip. In the first strip they circle the multiplicand for each problem. In the next strip they underline the multiplier and in the last strip they draw a box around the products. –Formative Assessment 11-Teacher asks class to read today's objective and write a number 1-5 rating their understanding of the commutative principle on the top of their paper before class is dismissed.	Students read objective in unison with the teacher. Students write in Math Journals. Students listen to shared samples and provide feedback to classmates. Students identify parts of multiplication problem in unison. Students create model/labels in Math Journals. Students work with a partner Students write corresponding multiplication sentences for each visual model and identify the parts of the problem. Students read the objective, rate their understanding of it and turn their work into the teacher.

4 We Do I Do You Do I Do We Do You Do	***Lesson 4 Objective: I can use my understanding of the commutative principle in multiplication to solve problems quickly.*** 1 - Teacher welcomes students to class and leads them in reading the day's posted objective. 2 - Teacher reviews with students the academic vocabulary term for parts of multiplication problems by displaying a problem and having class identify the parts. 3 - Teacher introduces the new term "factors" by circling around both the multiplicand and multiplier in the displayed problem. 4 - Teacher instructs students to circle the factors in the problems they wrote in their Math Journals yesterday. 5 - Teacher demonstrates that a quick way to multiply by 10 is to multiply the first number in the multiplicand by 1 and add a zero. 6 - Teacher has students write the numbers from 1 – 9 on whiteboards. Then x 10 is added as the multiplier for each number being careful to align the numbers by place value. Teacher leads class in verbalizing each of the first three problems. (Ex. 1 x10 is 1 x1 add a zero, 2 x 10 is 2 x1 add a zero, etc.) 7 - Teacher instructs students to finish the problems independently and encourages them to verbalize as they work. (Formative Assessment) 8 - Teacher asks students to consider if the products would be the same if the factors were inverted. They are asked to produce a proof on the back of their paper. 9 - Teacher asks students to consider if the products would be the same if the multiplier is100. They are asked to produce a proof on the back of their paper. (Extended learning) 10 - Teacher leads class discussion. 11 - Teacher provides a multiplication x 10 worksheet and challenges students to "Beat the Clock" (1 minute timing) instructing them to bracket the last problem finished when timer goes off. 12 - Teacher asks class to read today's objective and class is dismissed.	Class reads the objective with the teacher. The students will write the number in a place value frame. Drill/Practice white board Students create problems with multipliers of 10 and complete first 3 problems together. Students complete x10 multiplication Students think and create a problem as proof. Students think and create a problem as proof. Students participate in a class discussion. Students do multiplication x 10 as quickly as they can to "Beat the Clock". Students read objective.
5	***Lesson 5 Objective: I can multiply to solve problems quickly.*** 1 - Teacher welcomes students to class and asks them to read the day's posted objective. 2 - To review academic vocabulary, the teacher has prepared large signs in advance with these words: commutative principle, factors, product, multiplicand and multiplier and displayed them around the room. Enough index cards are made with examples of these terms	Students read objective in unison. Students locate the term matching their index card.

	(circling the part to be matched) so that each student will receive one term to identify. Teacher instructs students to decide what vocabulary term their card matches and move to that sign. (Formative Assessment) 3 - Teacher instructs all students in a group to check that all cards match the term they are representing. 4 - Teacher leads a "Whip Around" to share at least one example at each station. 5 - Teacher provides another multiplication x 10 worksheet and challenges students to "Beat the Clock" (1 minute timing) instructing them to bracket the last problem finished when timer goes off. 6 – Teacher administers the Summative Assessment. 7 - Teacher asks class to read today's objective and class is dismissed.	Students check each other. Students participate in a class "Whip Around". Students repeat yesterday's "Beat the Clock" drill. Students complete the Summative Assessment. Students read the objective.


multiply 10
multiply a
multiple of 10
3x4
3x10
3x40

Multiplication Bingo Worksheet

Assessment-

Print out this page and cut out the two squares. Give one square to each student. Call out the questions on the second page. Have students answer the questions in the correct box. First one to finish shouts BINGO!

40 x 4	30 x 7	50 x 3
70 x 2	80 x 5	90 x 6
20 x 8	60 x 9	10 x 9
10 x 4	20 x 7	30 x 3
50 x 2	60 x 5	40 x 6
70 x 8	80 x 9	90 x 9

Page 1 · Multiplication Bingo Worksheet

Call the questions below out in random order.

40 x 4 =	30 x 7 =	50 x 3 =
70 x 2 =	80 x 5 =	90 x 6 =
20 x 8 =	60 x 9 =	10 x 9 =
10 x 4 =	20 x 7 =	30 x 3 =
50 x 2 =	60 x 5 =	40 x 6 =
70 x 8 =	80 x 9 =	90 x 9 =

Multiplication Bingo Worksheet

Answer Key

Print out this page and cut out the two squares. Give one square to each student. Call out the questions on the second page. Have students answer the questions in the correct box. First one to finish shouts BINGO!

40 x 4 = 160	30 x 7 = 210	50 x 3 = 150
70 x 2 = 140	80 x 5 = 400	90 x 6 = 540
20 x 8 = 160	60 x 9 = 540	10 x 9 = 90

10 x 4 = 40	20 x 7 = 140	30 x 3 = 90
50 x 2 = 100	60 x 5 = 300	40 x 6 = 240
70 x 8 = 560	80 x 9 = 720	90 x 9 = 810

Multiplication Bingo Worksheet

Call the questions below out in random order.

40 x 4 = 160	30 x 7 = 210	50 x 3 = 150
70 x 2 = 140	80 x 5 = 400	90 x 6 = 560
20 x 8 = 160	60 x 9 = 540	10 x 9 = 90
10 x 4 = 40	20 x 7 = 140	30 x 3 = 90
50 x 2 = 100	60 x 5 = 300	40 x 6 = 240
70 x 8 = 560	80 x 9 = 720	90 x 9 = 810