THIRD GRADE
4TH SIX WEEKS

WEEK 2
MULTIPLICATION
WITH REGROUPING

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<td>4G, 5C</td>
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Vocabulary:
Multiply
Factor
Product
Partial Product
Array
Number Sentence
Total
Regroup
Place Value
Ones, Tens
Area Model
Distributive Property
Models
Sketch
Digits
Writing Story Problems with Students

It is highly recommended that students write simple story problems using the numbers in this unit.

**Multiplication**

Choose the problem.

Say: I have the number _____.

What could this number stand for?

I also have the number _____.

If I want to use the question, "_____",
what word could we use for this second number?

Write the problem.

Elaborate the problem *orally*.

**Multiplicación**

Escoja el problema.

Diga: Tengo el número _____.

¿Qué podría representar este número?

También tengo el número _____.

Si quiero usar la pregunta "_____",
¿qué palabra usaríamos para este segundo número?

Escriba el problema.

Elabore el problema *verbalmente*.

Example:

5 \times 25

5 boxes

25 How many? paper clips

Mrs. Thomas has 5 boxes of paper clips. Each box contains 25 paper clips. How many paper clips does she have?

Ejemplo:

5 \times 25

5 cajas

25 ¿Cuántos? sujetapapeles

La Sra. Thomas tiene 5 cajas de sujetapapeles. Cada caja contiene 25 sujetapapeles. ¿Cuántos sujetapapeles tiene?
**ACTIVITY 1**  
Concrete Level

Materials:
Base ten blocks  
Paper and pencils

Choose a problem. Build an array to show each problem using base ten blocks.  
Write a story problem with the students.

Regrouping ones to tens  
4 rows. 16 in each row.  
5 rows. 12 in each row.

Regrouping tens to hundreds  
6 rows. 21 in each row.  
3 rows. 43 in each row.

2 regroupings  
5 rows. 42 in each row.  
9 rows. 15 in each row.

2 regroupings  
8 rows. 23 in each row.  
7 rows. 34 in each row.

Instruct students to build the problem using the fewest blocks possible.  
Then follow the script.
Example 1  Concrete Level  
Regrouping Ones to Tens

Look at the blocks. Look at the ones.
How many rows?  
How many ones in each row?  
How many ones in all?  
Is that enough to regroup?  

5 rows. 12 in each row.
2 ones in each row
10 ones in all
Yes Regroup the ones.

Look at the blocks. Look at the tens.
How many rows?  
How many tens in each row?  
How many regrouped tens?  
How many tens in all?  
Is that enough to regroup?  

5 rows
1 ten in each row
1 regrouped ten
6 tens in all
No

What was the problem?
5 rows. 12 in each row. 60 in all.
Write the problem in multiplication form.
5 × 12 = 60 factor × factor = product

Example 2  Concrete Level  
Regrouping Tens to Hundreds

Look at the blocks. Look at the ones.
How many rows?  
How many ones in each row?  
How many ones in all?  
Is that enough to regroup?  

6 rows
1 one in each row
6 ones in all
No

Look at the blocks. Look at the tens.
How many rows?  
How many tens in each row?  
How many regrouped tens?  
How many tens in all?  
Is that enough to regroup?  

6 rows
2 tens in each row
0 regrouped tens
12 tens in all
Yes Regroup the tens.

What was the problem?
6 rows. 21 in each row. 126 in all.
Write the problem in multiplication form.
6 × 21 = 126 factor × factor = product
ACTIVITY 4  Abstract Level
Materials:
Blackline Master:  *Multiplication with Regrouping 4A - 4B*, 1 per student
*Multiplication Flip Game Board* (1 per student)
Teacher Copy:  *Multiplication with Regrouping 4A*
Pencils
Scratch paper or grid paper (If needed)
0-9 - Digit Cards (1 set per student, Master 1st Six Weeks)

1. Using *Multiplication with Regrouping 4A, A - J*, work with the students to transition to the abstract level.

   Those students not ready to work at the abstract level should be allowed to sketch.

<table>
<thead>
<tr>
<th>A</th>
<th>90</th>
<th>E</th>
<th>360</th>
<th>I</th>
<th>219</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>480</td>
<td>F</td>
<td>582</td>
<td>J</td>
<td>H</td>
</tr>
<tr>
<td>C</td>
<td>837</td>
<td>G</td>
<td>268</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>455</td>
<td>H</td>
<td>196</td>
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2. Game: Multiplication Flip

   Instruct students to do the following:
   - Shuffle their digit cards and place them face down.
   - Students will take turns flipping over one card at a time and place it on the game board until all 3 spaces have been filled and a multiplication algorithm is created.
   - Each student will then solve the multiplication problem they have created.
   - Exchange papers and check answers.
   - If the answer is correct, each student records his or her product in the appropriate box for that round.
   - The product becomes the score for each round.
   - The process is repeated for 5 rounds.
   - At the end of 5 rounds, the student with the greatest sum of the 5 products is declared the winner.
   - Variation: Smallest sum of the products is declared the winner.

3. Practice:  *Multiplication with Regrouping 4B, 1 - 10*

<table>
<thead>
<tr>
<th>1</th>
<th>96</th>
<th>5</th>
<th>477</th>
<th>8</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>549</td>
<td>6</td>
<td>195</td>
<td>9</td>
<td>J</td>
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<tr>
<td>4</td>
<td>539</td>
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I. A milk truck delivers 73 pints of milk to a grocery store each day. How many pints of milk would the truck deliver to the store in 3 days?

Solve using an area model.

Complete the pattern to solve.

Day 1
Day 2
Day 3

J. Grace exercises 32 minutes every day. How many minutes will she exercise in 8 days? (Show 2 ways to solve.)

F 246 min
G 266 min
H 256 min
J Not here