4th Grade Chapter 3

"Multiply 2-Digit Numbers" Reteach Lessons 3.1-3.7

Name _____ Lesson 3.1 Reteach

Multiply by Tens

One section of seating at an arena has 40 rows. Each row has 30 seats. How many seats in all are in that section?

Multiply. 30 × 40

Step 1 Think of each factor as a multiple of 10 and as a repeated addition.

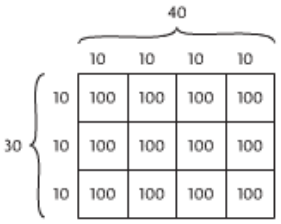
40 = 4 × 10 or 10 + 10 + 10 + 10

30 = 3 × 10 or 10 + 10 + 10

Step 2 Draw a diagram to show the multiplication.

Step 3 Each small square in the diagram shows 10 × 10, or 100. Count the squares.

There are 12 squares of 100.



Step 4 Use patterns and mental math to find 12 × 100.

12 × 1 = 12

12 × 10 = 120

12 × 100 = 1,200

There are 1,200 seats in that section.

Name _____ Lesson 3.2 Reteach

Estimate Products

You can use rounding and compatible numbers to estimate products.

Use mental math and rounding to estimate the product.

Estimate. 62 × $23

Step 1 Round each factor to the nearest ten. 62 rounds to 60. $23 rounds to $20.

Step 2 Rewrite the problem using the rounded numbers. 60 × $20

Step 3 Use mental math. 6 × $2 = $12; 6 × $20 = $120; 60 × $20 = $1,200

So, 62 × $23 is about $1,200.

Use mental math and compatible numbers to estimate the product.

Estimate. 24 × 78

Step 1 Use compatible numbers. 25 × 80

Step 2 Use 25 × 4 = 100 to help find 25 × 8. 25 × 8 = 200

Step 3 Since 80 has 1 zero, write 1 zero to the right of the product.

24 × 78 → 25 × 80 = 2,000

So, 24 × 78 is about 2,000.

Name _____

Lesson 3.3
Reteach

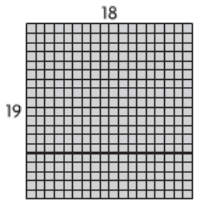
Area Models and Partial Products

You can use area models to multiply 2-digit numbers by 2-digit numbers.

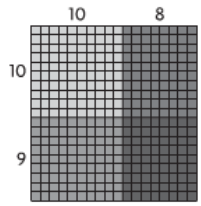
Use the model and partial products to solve.

Draw a rectangle to find 19 × 18.

The rectangle is 19 units long and 18 units wide.



Step 1 Break apart the factors into tens and ones. Divide the area model into four smaller rectangles to show the factors.



Step 2 Find the products for each of the smaller rectangles.

10 × 10 = 100 10 × 8 = 80 9 × 10 = 90 9 × 8 = 72

Step 3 Find the sum of the products. 100 + 80 + 90 + 72 = 342

So, 19 × 18 = 342.

Name _____

Lesson 3.4
Reteach

Multiply Using Partial Products

Multiply 25 × 43. Record the product.

Think: I can use partial products to find 25 × 43.

Step 1 Multiply the tens by the tens.
20 × 4 tens = 80 tens, or 800.

Step 2 Multiply the ones by the tens.
20 × 3 ones = 60 ones, or 60.

Step 3 Multiply the tens by the ones.
5 × 4 tens = 20 tens, or 200.

Step 4 Multiply the ones by the ones.
5 × 3 ones = 15 ones, or 15.

Step 5 Add the partial products.
800 + 60 + 200 + 15 = 1,075.

	tens	ones
	4	3
×	2	5
	8	0	0
		6	0
	2	0	0
+		1	5
	1,	0	7	5

So, 25 × 43 = 1,075.

Name _____

Lesson 3.5
Reteach

Multiply with Regrouping

Estimate. Then use regrouping to find 28 × 43.

Step 1 Round to estimate the product. $30 \times 40 = 1{,}200$

Step 2 Think: 28 = 2 tens 8 ones.
Multiply 43 by 8 ones.
8 × 3 = 24. Record the 4. Write the regrouped 2 above the tens place.
8 × 40 = 320. Add the regrouped tens: 320 + 20 = 340.

$$\begin{array}{r} {\scriptstyle 2}\\ 43\\ \times\ 28\\ \hline 344 \end{array} \longleftarrow 8 \times 43$$

Step 3 Multiply 43 by 2 tens.
20 × 3 = 60 and 20 × 40 = 800.
Record 860 below 344.

$$\begin{array}{r} {\scriptstyle 2}\\ 43\\ \times\ 28\\ \hline 344\\ 860 \end{array} \longleftarrow 20 \times 43$$

Step 4 Add the partial products.

$$\begin{array}{r} 1{,}204 \end{array} \longleftarrow 344 + 860$$

So, 28 × 43 = 1,204. 1,204 is close to 1,200. The answer is reasonable.

Name _____

Lesson 3.6
Reteach

Choose a Multiplication Method

Estimate. Then use regrouping to find 47 × 89.

$$\begin{array}{r} 89\\ \times\ 47 \end{array}$$

Step 1 Estimate the product. $50 \times 90 = 4{,}500$

Step 2 Multiply the 9 ones by the 7 ones. Regroup the 63 ones as 6 tens 3 ones.

$$\begin{array}{r} {\scriptstyle 6}\\ 89\\ \times\ 47\\ \hline 3 \end{array}$$

Step 3 Multiply the 8 tens, or 80, by the 7 ones, or 7. Add the regrouped tens. Regroup the 62 tens as 6 hundreds 2 tens.

$$\begin{array}{r} {\scriptstyle 6}\\ 89\\ \times\ 47\\ \hline 623 \end{array}$$

Step 4 Multiply the 9 ones by the 4 tens, or 40. Regroup the 36 tens as 3 hundreds 6 tens.

$$\begin{array}{r} {\scriptstyle 3}\\ 89\\ \times\ 47\\ \hline 623\\ 60 \end{array}$$

Step 5 Multiply the 8 tens, or 80, by the 4 tens, or 40. Add the regrouped tens. Regroup the 35 hundreds as 3 thousands 5 hundreds.

$$\begin{array}{r} {\scriptstyle 3}\\ 89\\ \times\ 47\\ \hline 623\\ 3{,}560 \end{array}$$

Step 6 Add the partial products.

$$\begin{array}{r} {\scriptstyle 3}\\ 89\\ \times\ 47\\ \hline 623\\ +\ 3{,}560\\ \hline 4{,}183 \end{array}$$

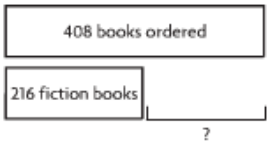
So, 47 × 89 = 4,183. Since 4,183 is close to the estimate of 4,500, it is reasonable.

Name _____

Lesson 3.7
Reteach

Problem Solving • Multiply 2-Digit Numbers

A library ordered 17 cases with 24 books in each case. In 12 of the cases, 18 books were fiction books. The rest of the books were nonfiction. How many nonfiction books did the library order?

Read the Problem	Solve the Problem
What do I need to find? I need to find how many nonfiction books were ordered.	• First, find the total number of books ordered. 17 × 24 = 408 books ordered • Next, find the number of fiction books. 12 × 18 = 216 fiction books • Last, draw a bar model. I need to subtract.
What information do I need to use? 17 cases of 24 books each were ordered. In 12 cases, 18 books were fiction books.	
How will I use the information? I can find the total number of books ordered and the number of fiction books ordered. Then I can draw a bar model to compare the total number of books to the number of fiction books.	408 − 216 = 192 So, the library ordered 192 nonfiction books.