

Homeschool Sampler

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Lesson 3 Fewer and More

Color the extra cubes red.
Count and write how many more.



9 Comparing Sets

Lesson 3
Fewer and More

LESSON OBJECTIVES

- Compare sets in one-to-one correspondence.
- Understand *few* and *fewer*.
- Understand *more*.

MATERIALS

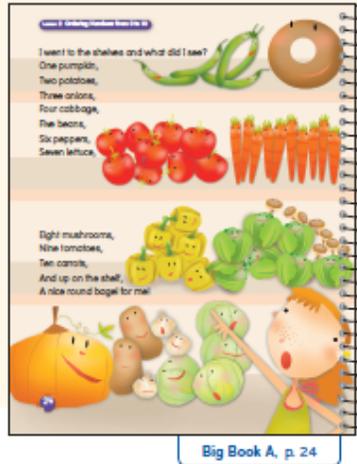
- Counters
- Salt (or sand)
- Number cubes
- Connecting cubes
- Red colored pencils

Vocabulary

fewer
few

DAY 1
Teacher's Edition B, pp. 37–38
Big Book A, p. 24

DAY 2
Teacher's Edition B, pp. 38–39
Student Book B, Part 1, p. 19



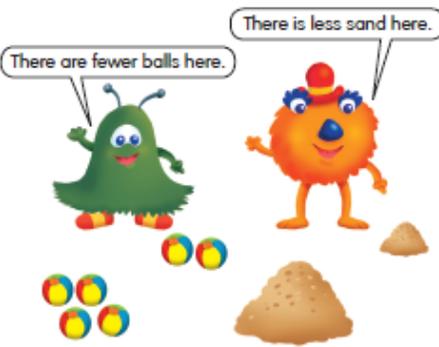
DAY 1

ACTIVITY 1
Investigate

Math Focus: Introduce *fewer*.
Resource: Big Book A, p. 24
Classroom Setup: Whole class, in front of the Big Book

1. Note that this activity relies on a page from Big Book A.
2. Ask children to sit so that everyone can see the Big Book.
3. *Talk* about number sizes to 10.
4. *Refer* to the picture of the vegetables. Count the number of each type of vegetable with the children.
5. *Remind* children that when a number is small, there are fewer objects than when the number is big.

DAY 2



ACTIVITY 2
Discover 

Math Focus: Introduce *few*.
Materials: Counters, 15
 Salt (or sand)
Classroom Setup: Whole class

Best Practices *Few* is a better word to use than *less* when talking about objects that can be counted. We say *few(er)* objects rather than *less* objects. Use *less* to refer to objects that you cannot count, for example, less sugar, less rice, and so on.

1. *Invite* children to stand around a table.
2. *Place* two mounds of salt on the table, one smaller than the other.
3. *Point* to the smaller mound and *say*: There is less salt here.
4. *Place* 3 counters on the table.
5. *Say*: There are a few counters here.
6. *Place* a group of 5 counters on the table.
7. *Point* to the group of 3 counters and *say*: 3 counters are fewer than 5 counters.
8. *Vary* the number of counters within each group. Then, ask children which group has fewer counters.
9. **Math Talk** Encourage children to state the comparison when responding. For example: That group, because 1 counter is fewer than 5 counters.
10. *Remind* children that when a number is small, there are fewer objects than when the number is big.

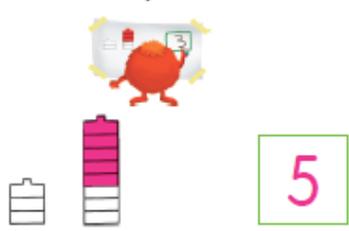


ACTIVITY 3
Explore 

Math Focus: Compare two number trains.
Materials: Number cubes, 2 (one with '5' and '6' covered)
 Connecting cubes, 20 per pair
Classroom Setup: Children work in pairs.

1. *Distribute* connecting cubes to the children.
2. *Toss* the uncovered number cube.
3. *Ask* children to link that number of cubes into a tower.
4. *Repeat* several times starting a new tower each time.
5. Next, toss both number cubes, first one and then the other.
6. After the first number cube has been tossed, children form a tower of cubes according to the number on the number cube.
7. After the second number cube has been tossed, children form another tower of cubes according to the total number on both number cubes.
8. *Talk* about which tower has more cubes and which tower has fewer cubes. (The second tower has more cubes because it is the total of the numbers shown on both number cubes. The first tower has fewer cubes because it is only the number shown on the first number cube.)
9. *Encourage* comparisons rather than counting.
10. *Remind* children that when a number is small, there are fewer objects than when the number is big.

Lesson 3 *Fewer and More*
Color the extra cubes red.
Count and write how many more.





Student Book B, Part 1, p. 19

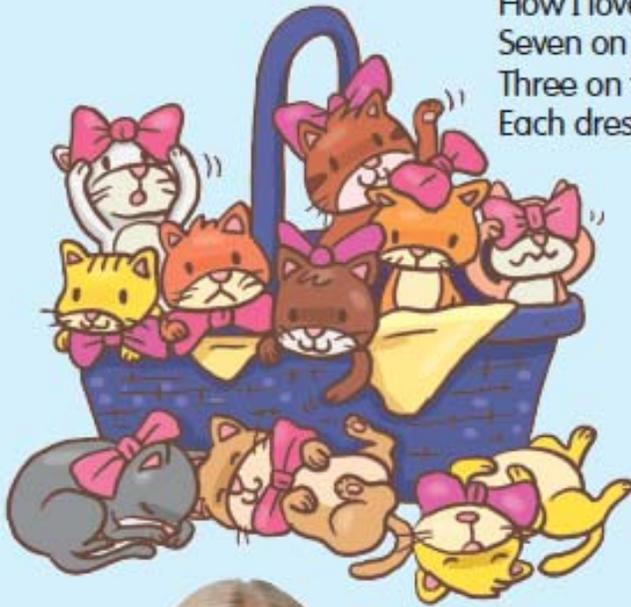
ACTIVITY 4
Apply **Math Focus:** Compare two numbers by comparing two sets.**Resource:** Student Book B, Part 1, p. 19**Materials:** Red colored pencils, 1 per child**Classroom Setup:** Children work independently.

1. Children compare the cubes in each tower and decide which tower has more cubes.
2. Then, they color these extra cubes red and write the number of extra cubes in the box.
3. *Encourage* children to compare the towers in one-to-one correspondence (side by side), rather than count the number of cubes in each tower.
4.  *Check* that children color the excess cubes at the top of the tower, and not at the bottom. Use the work being done by the furry as a model.

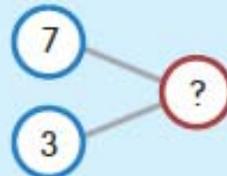
CHAPTER
2

Number Bonds

Kittens, kittens, cute little kittens,
How I love them so!
Seven on the inside,
Three on the outside,
Each dressed up in a bow!



How many kittens are there?



Lesson 1 Making Number Bonds



Number bonds can be used to show parts and whole.

Recall Prior Knowledge

Counting

There are 5 .



This is a number train of 4 .



✓ Quick Check

What is the number?
Count.



LESSON 1

Making Number Bonds

Lesson Objectives

- Use connecting cubes or a math balance to find number bonds.
- Find different number bonds for numbers to 10.

Vocabulary

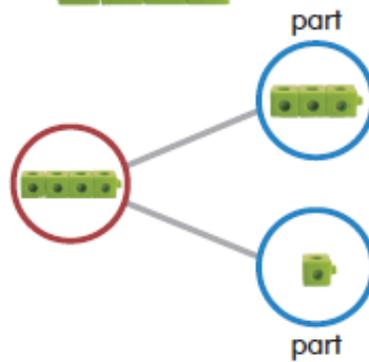
part
whole
number bond

Learn

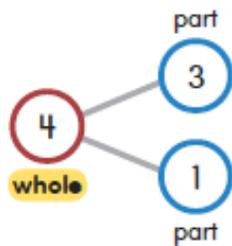
You can make number bonds with .

You can use a number train to make number bonds.

Sam put  into two parts.



How many are in each **part**?



3 and 1 make 4.

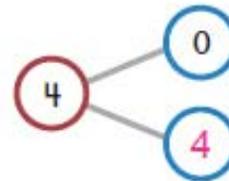
This picture shows a **number bond**.

 **Hands-On Activity**

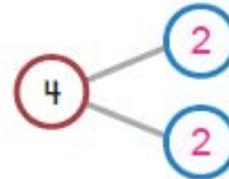
Use .

What other numbers make 4?

1 **0** and **4** make 4.

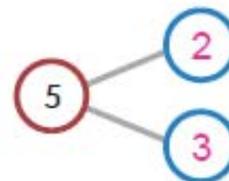
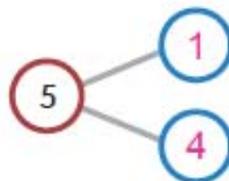
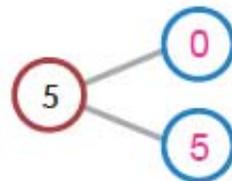


2 and **2** make 4.



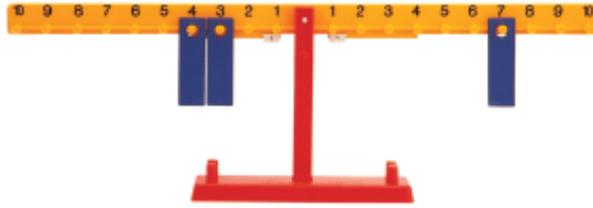
What numbers make 5?

2



Learn

You can make number bonds with a math balance.

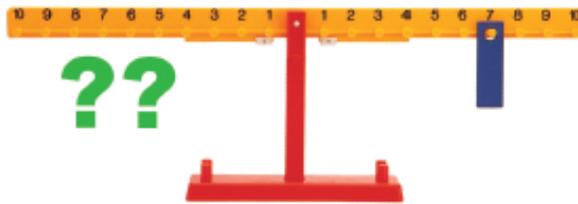


4 and 3 make 7.



 Hands-On Activity

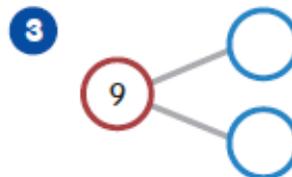
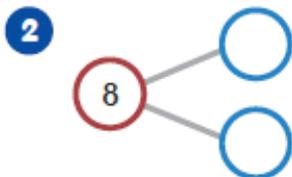
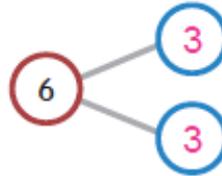
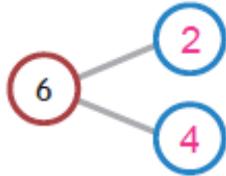
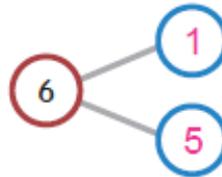
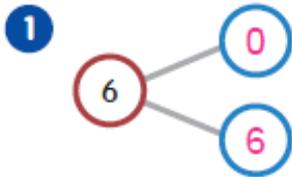
What other numbers make 7?
Use a math balance to help you.



Let's Practice

Make number bonds for these numbers.

Use  or a math balance to help you.



Accept 0 and 8;
1 and 7; 2 and 6;
3 and 5; 4 and 4.

Accept 0 and 9; 1 and 8;
2 and 7; 3 and 6; 4 and 5.

 ON YOUR OWN

Go to Workbook A:
Practice 1 to 3, pages 21–30



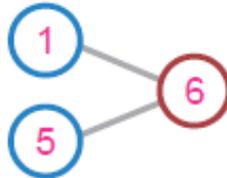
READING AND WRITING MATH
Math Journal

Look at the picture.
Make two number bonds.

Answers vary.



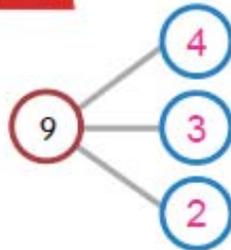
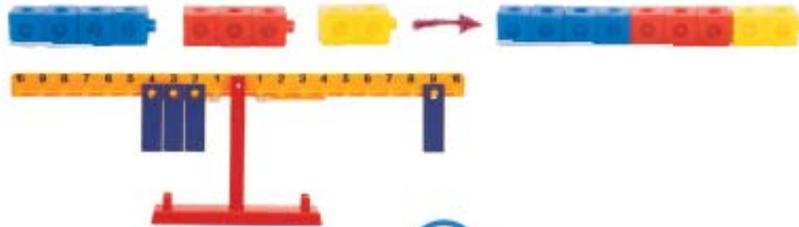
1 red stool and 5 blue stools
make 6 stools.



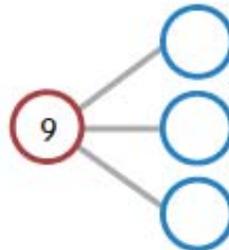
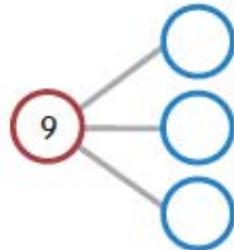
 **Let's Explore!**

Use  or a math balance to help you.

- 1 Find three numbers that make 9.



- 2 Show two more ways to do this.



Answers vary.
Sample:
3, 3, and 3;
5, 2, and 2

- 3 Find three numbers that make 10.
Show two more ways to do this.

Answers vary.

Sample: 1, 2, and 7; 2, 3, and 5

 **Let's Explore!**

Use .

^{STEP}
1 Put some  and  together to make a number train.
 Now add some  to your number train.
 Make sure your number train has 10 or less .

^{STEP}
2 Count the total number of  and . **Answers vary.**
 Count the number of . **Answers vary.**
 Add the total number of  and  to the number of .

What number do you get? **Answers vary.**

^{STEP}
3 Count the total number of  and . **Answers vary.**
 Count the number of . **Answers vary.**
 Add the number of  to the total number of  and .

What number do you get? **Answers vary.**

Did you get the same number for ^{STEP}**2** and ^{STEP}**3**? **Yes.**

Choose different numbers of , , and .

Carry out ^{STEP}**1**, ^{STEP}**2**, and ^{STEP}**3** again.

What do you notice?

The number I get in ^{STEP}3 is always the same as that we get in ^{STEP}2.

LESSON 1

Using Part-Part-Whole in Addition and Subtraction

Lesson Objectives

- Use bar models to solve addition and subtraction problems.
- Apply the inverse operations of addition and subtraction.

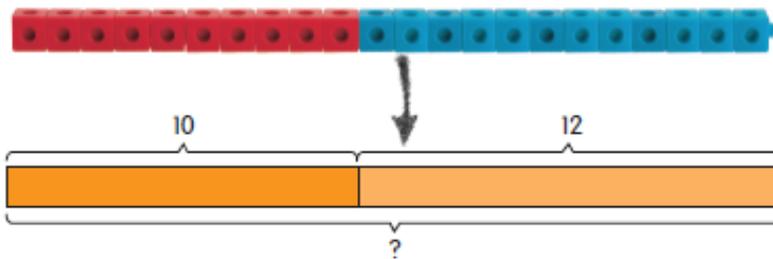
Learn

You can use bar models to help you add.

Mandy makes 10 granola bars.

Aida makes 12 granola bars.

How many granola bars do they make in all?



$$10 + 12 = 22$$

They make 22 granola bars in all.

Check!

$$22 - 10 = 12$$

$$22 - 12 = 10$$

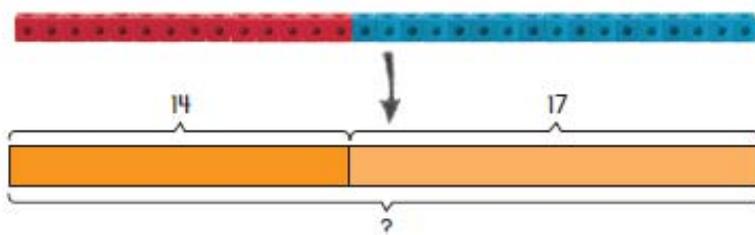
The answer is correct.



Guided Practice

Find the missing numbers.
Use the bar model to help you.

- 1 Helen puts 14 breadsticks in a basket.
Her friend puts 17 breadsticks in the basket.
How many breadsticks are in the basket?



$$14 + 17 = 31$$

There are 31 breadsticks in the basket.

Check!

$$31 - 17 = 14$$

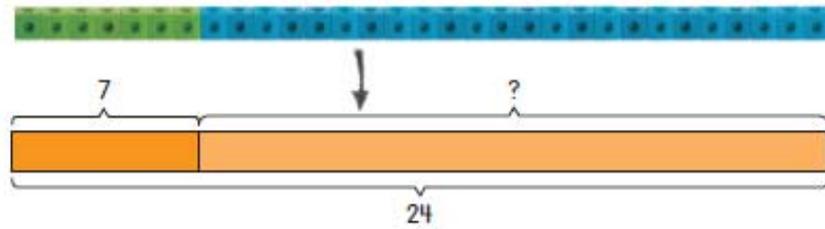
$$31 - 14 = 17$$

Is the answer correct?



Learn You can use bar models to help you subtract.

Will buys 24 eggs.
He breaks 7 eggs.
How many eggs do not break?



$$24 - 7 = 17$$

17 eggs do not break.



Check!

$$17 + 7 = 24$$

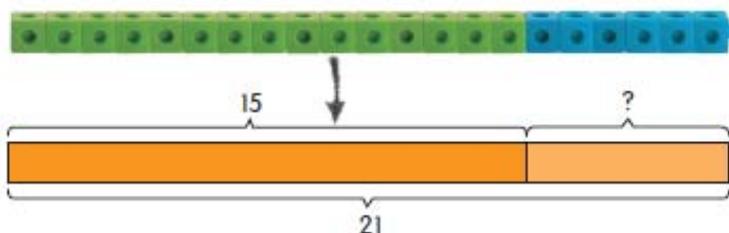
The answer is correct.



Guided Practice

Find the missing numbers.
Use the bar model to help you.

- 2 The second grade class has a new aquarium.
There are 21 fish in it.
15 fish were given by families.
The rest were bought by the school.
How many fish did the school buy?



$$21 - 15 = 6$$

The school bought 6 fish.

Check!

$$15 + 6 = 21$$

Is the answer correct?




Hands-On Activity

STEP

1

Write a favorite name, a number less than 20, and the name of a favorite toy on three pieces of paper. Your classmates will do the same.



STEP

2

Your teacher has three bags. They are labeled as shown. Drop each piece of paper into the correct bag.



STEP

3

Pick one name, one toy and two numbers from the bags.



STEP

4

Write a real-world problem using the words and numbers that you picked.



STEP

5

Return the pieces of paper that you have picked into the correct bags.

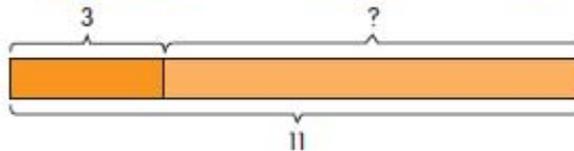
STEP

6

Read your real-world problem to your classmates.
Have them show your real-world problem with bar models.

Example

Lily has 11 teddy bears.
3 of them are big.
The rest are small.
How many teddy bears are small?



STEP

7

Take turns picking papers from the bags and writing real-world problems.

Guided Practice

Solve.

Use bar models to help you.

- 3 The library spends \$225 on books.
It has \$78 left to spend.
How much does the library have at first? **\$303**
- 4 The art teacher has \$745.
She buys paint supplies for \$257.
She spends the rest of the money on drawing supplies.
How much do the drawing supplies cost? **\$488**

Let's Practice

Solve.

Draw bar models to help you.

- 1 Kevin scores 78 points in the first game he bowls.
He scores 85 points in the second game.
How many points does Kevin score for both games? **163 points**
- 2 There are 147 fish in a pond.
49 of them are black.
The rest are orange.
How many fish are orange? **98 fish**
- 3 98 boys sign up for a school camp.
154 girls sign up for the camp also.
How many children sign up for the camp in all? **252 children**
- 4 Jordan and Ling have 472 trading cards.
Ling has 178 trading cards.
How many trading cards does Jordan have? **294 trading cards**
- 5 A bookstore has 179 chapter books.
It has 243 picture books.
How many chapter and picture books does the bookstore have?
422 books
- 6 Lee has 528 United States and Singapore stamps.
He has 249 United States stamps.
How many Singapore stamps does he have?
279 Singapore stamps

See Additional Answers

ON YOUR OWN

**Go to Workbook A:
Practice 1, pages 73–76**

Lesson 4.2 Subtraction with Regrouping in Hundreds and Thousands

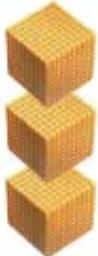
Lesson Objective

- Use base-ten blocks to subtract with regrouping.

Vocabulary
regroup

Learn Use base-ten blocks and a place-value chart to subtract with regrouping.

$$3,249 - 1,926 = ?$$

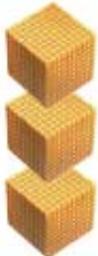
Thousands	Hundreds	Tens	Ones
			

Step 1

Subtract the ones.

$$\begin{array}{r} 3,249 \\ - 1,926 \\ \hline 3 \end{array}$$

$$9 \text{ ones} - 6 \text{ ones} = 3 \text{ ones}$$

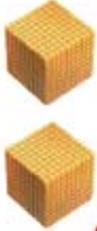
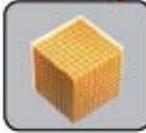
Thousands	Hundreds	Tens	Ones
			

Step 2

Subtract the tens.

$$\begin{array}{r} 3,249 \\ - 1,926 \\ \hline 23 \end{array}$$

$$4 \text{ tens} - 2 \text{ tens} = 2 \text{ tens}$$

Thousands	Hundreds	Tens	Ones
			
			

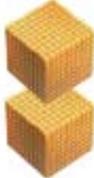
$$\begin{array}{r}
 3,249 \\
 - 1,926 \\
 \hline
 23
 \end{array}$$

9 hundreds cannot be subtracted from 2 hundreds. So, **regroup** the thousands and hundreds.



Regroup.
 3 thousands 2 hundreds
 = 2 thousands 12 hundreds



Thousands	Hundreds	Tens	Ones	
	 			<p>Step 3 Subtract the hundreds.</p> $\begin{array}{r} \overset{2}{3},249 \\ - 1,926 \\ \hline 323 \end{array}$ <p>12 hundreds - 9 hundreds = 3 hundreds</p>

Thousands	Hundreds	Tens	Ones	
				<p>Step 4 Subtract the thousands.</p> $\begin{array}{r} \overset{2}{3},249 \\ - 1,926 \\ \hline 1,323 \end{array}$ <p>2 thousands - 1 thousand = 1 thousand</p>

When 1,926 is subtracted from 3,249, the difference is 1,323.

Check!

If $3,249 - 1,926 = 1,323$,
then $1,323 + 1,926$ should equal 3,249.
The answer is correct.

1	1,323
+	1,926
=	3,249

Guided Practice**Regroup. Find the missing numbers.**

1 7 thousands 3 hundreds = 6 thousands hundreds

2 4 thousands 1 hundred – 2 thousands 8 hundreds
 = 3 thousands hundreds – 2 thousands 8 hundreds
 = 1 thousand hundreds

Subtract. Use base-ten blocks to help you.

3
$$\begin{array}{r} 6,200 \\ - 800 \\ \hline \end{array}$$

4
$$\begin{array}{r} 5,126 \\ - 3,412 \\ \hline \end{array}$$

5
$$\begin{array}{r} 8,415 \\ - 6,705 \\ \hline \end{array}$$

Let's Practice**Find the difference. Use base-ten blocks to help you.**

1 The difference between 4,600 and 2,800 is .

2 The difference between 5,678 and 742 is .

3 The difference between 5,523 and 7,243 is .

Subtract.

4
$$\begin{array}{r} 5,221 \\ - 3,410 \\ \hline \end{array}$$

5
$$\begin{array}{r} 8,735 \\ - 2,812 \\ \hline \end{array}$$

Add to check
your answers.

**ON YOUR OWN**

Go to Workbook A:
Practice 2, pages 61–62

Lesson 3.1 Multiplying by a 1-Digit Number

Lesson Objective

- Use different methods to multiply up to 4-digit numbers by 1-digit numbers, with or without regrouping.

Learn Represent numbers using place-value charts.

213 can be represented in these ways.

Hundreds	Tens	Ones
		

Hundreds	Tens	Ones
		

Hundreds	Tens	Ones
2	1	3

Learn **Model multiplication with regrouping in thousands, hundreds, tens, and ones.**

Roy's Market sold 2,476 oranges. Ana's Market sold 3 times as many oranges as Roy's Market. How many oranges did Ana's Market sell?

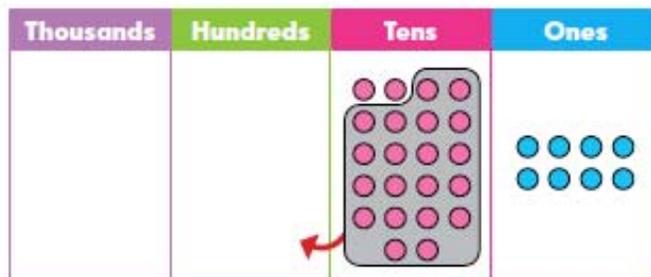
$$2,476 \times 3 = ?$$

Step 1 Multiply the ones by 3.
 $6 \text{ ones} \times 3 = 18 \text{ ones}$
 $= 1 \text{ ten } 8 \text{ ones}$



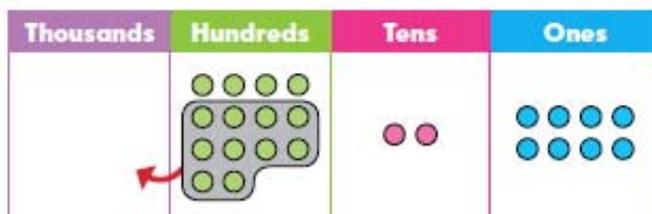
$$\begin{array}{r} \text{Th H T O} \\ 2,476 \\ \times \quad 3 \\ \hline 8 \end{array}$$

Step 2 Multiply the tens by 3.
 $7 \text{ tens} \times 3 = 21 \text{ tens}$
 $= 2 \text{ hundreds } 1 \text{ ten}$
 Add the tens.
 $2 \text{ hundreds } 1 \text{ ten} + 1 \text{ ten} = 2 \text{ hundreds } 2 \text{ tens}$



$$\begin{array}{r} \text{Th H T O} \\ 2,476 \\ \times \quad 3 \\ \hline 28 \end{array}$$

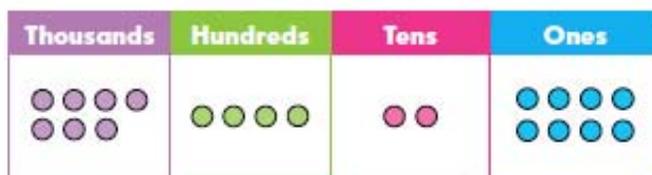
Step 3 Multiply the hundreds by 3.
 $4 \text{ hundreds} \times 3 = 12 \text{ hundreds}$
 $= 1 \text{ thousand } 2 \text{ hundreds}$
 Add the hundreds.
 $1 \text{ thousand } 2 \text{ hundreds} + 2 \text{ hundreds}$
 $= 1 \text{ thousand } 4 \text{ hundreds}$



Th	H	T	O
1	2	4	7
2	4	7	6
× 3			

	4	2	8

Step 4 Multiply the thousands by 3.
 $2 \text{ thousands} \times 3 = 6 \text{ thousands}$
 Add the thousands.
 $6 \text{ thousands} + 1 \text{ thousand} = 7 \text{ thousands}$



Th	H	T	O
1	2	4	7
2	4	7	6
× 3			

7	4	2	8

Ana's Market sold 7,428 oranges.

Guided Practice

Find the missing numbers in each step.

- 1 The next month, Roy's Market sold 6,139 oranges.
Ana's Market sold 9 times as many oranges as Roy's Market.
How many oranges did Ana's Market sell?

$$6,139 \times 9 = ?$$

Step 1

$$\begin{aligned} 9 \text{ ones} \times 9 &= 81 \text{ ones} \\ &= \boxed{} \text{ tens } \boxed{} \text{ one} \end{aligned}$$

Th	H	T	O
6,	1	⁸ 3	9
x	9		
			9
			□

Step 2

$$\begin{aligned} 3 \text{ tens} \times 9 &= 27 \text{ tens} \\ &= \boxed{} \text{ hundreds } \boxed{} \text{ tens} \end{aligned}$$

Add the tens.

$$\begin{aligned} \boxed{} \text{ hundreds } \boxed{} \text{ tens} &+ \boxed{} \text{ tens} \\ &= \boxed{} \text{ hundreds } \boxed{} \text{ tens} \\ &= \boxed{} \text{ hundreds } \boxed{} \text{ tens} \end{aligned}$$

6,	1	⁸ 3	9
x	9		
			9
			□ □

Step 3

$$1 \text{ hundred} \times 9 = 9 \text{ hundreds}$$

Add the hundreds.

$$\begin{aligned} \boxed{} \text{ hundreds} &+ \boxed{} \text{ hundreds} \\ &= \boxed{} \text{ hundreds} \\ &= \boxed{} \text{ thousand } \boxed{} \text{ hundreds} \end{aligned}$$

6,	³ 1	⁸ 3	9
x	9		
			9
			□ □ □



WORK IN PAIRS

Game

Roll and Multiply!

Players: 2

Materials:

- Chip models
- Number cubes

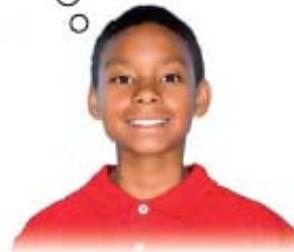
STEP 1 Player 1 tosses the number cube four times to get a 4-digit number, for example 5,421.

STEP 2 Player 2 tosses the number cube once to get a 1-digit number, for example 6.

STEP 3 Player 1 uses the chip model (shown on pages 78 and 79) to multiply the 4-digit number by the 1-digit number.

STEP 4 Then Player 1 writes the answer as shown in the example.

$$\begin{array}{r} 2 1 \\ 5,421 \\ \times 6 \\ \hline 32,526 \end{array}$$



Example

4-Digit Number	1-Digit Number	Product
5,421	6	$5,421 \times 6 = 32,526$

STEP 5 Player 2 checks the answer. Player 1 gets one point if the answer is correct.

STEP 6 Take turns writing the product and checking the answer. Play three rounds.

The player with the higher score wins!


READING AND WRITING MATH
 Math Journal
Example

Look at the steps for multiplying a 3-digit number by a 1-digit number.

$$\begin{array}{r} \\ \\ \\ \times \\ \hline 1,505 \end{array}$$

STEP 1 Multiply the ones by 7.

$$5 \text{ ones} \times 7 = 35 \text{ ones}$$

Regroup the ones.

$$35 \text{ ones} = 3 \text{ tens } 5 \text{ ones}$$

STEP 2 Multiply the tens by 7.

$$1 \text{ ten} \times 7 = 7 \text{ tens}$$

Add the tens.

$$7 \text{ tens} + 3 \text{ tens} = 10 \text{ tens}$$

Regroup the tens.

$$10 \text{ tens} = 1 \text{ hundred}$$

STEP 3 Multiply the hundreds by 7.

$$2 \text{ hundreds} \times 7 = 14 \text{ hundreds}$$

Add the hundreds.

$$14 \text{ hundreds} + 1 \text{ hundred} = 15 \text{ hundreds}$$

Regroup the hundreds.

$$15 \text{ hundreds} = 1 \text{ thousand } 5 \text{ hundreds}$$

The product is 1,505.

What are the steps to find the product of 6,875 and 3?

 **Let's Explore!**
**WORKING TOGETHER**

Three students completed these multiplication problems. Find the errors.

$$\begin{array}{r} ^1 ^3 ^4 \\ 1,245 \\ \times 8 \\ \hline 8,620 \end{array}$$

$$\begin{array}{r} ^1 ^3 \\ 673 \\ \times 3 \\ \hline 18,219 \end{array}$$

$$\begin{array}{r} ^1 ^3 \\ 1036 \\ \times 5 \\ \hline 5,580 \end{array}$$

Discuss with your classmates some common errors that students make in multiplication.

Let's Practice

Multiply and find the missing numbers.

$$\begin{aligned} \textcircled{1} \quad 7 \text{ ones} \times 4 &= \text{ } \text{ones} \\ &= \text{ } \text{tens } \text{ } \text{ones} \end{aligned}$$

$$\begin{array}{r} ^1 \\ \times ^1 4 \\ \hline \end{array}$$

$$\begin{aligned} \textcircled{2} \quad 8 \text{ tens} \times 5 &= \text{ } \text{tens} \\ &= \text{ } \text{hundreds } \text{ } \text{tens} \end{aligned}$$

$$\begin{array}{r} ^1 \\ \times ^1 5 \\ \hline \end{array}$$

$$\begin{aligned} \textcircled{3} \quad 6 \text{ hundreds} \times 3 &= \text{ } \text{hundreds} \\ &= \text{ } \text{thousand } \text{ } \text{hundreds} \end{aligned}$$

$$\begin{array}{r} ^1 \\ \times ^1 3 \\ \hline \end{array}$$

Multiply and find the missing numbers.

4 $9 \text{ thousands} \times 2 = \square \text{ thousands}$
 $= \square \text{ ten thousand } \square \text{ thousands}$

$$\begin{array}{r} 9,000 \\ \times \quad 2 \\ \hline \square \end{array}$$

Multiply.

5 $8 \times 3 = \square$

6 $80 \times 3 = \square$

7 $800 \times 3 = \square$

8 $8,000 \times 3 = \square$

Multiply.

9
$$\begin{array}{r} 104 \\ \times \quad 5 \\ \hline \square \end{array}$$

10
$$\begin{array}{r} 754 \\ \times \quad 3 \\ \hline \square \end{array}$$

11
$$\begin{array}{r} 217 \\ \times \quad 8 \\ \hline \square \end{array}$$

12
$$\begin{array}{r} 9,110 \\ \times \quad 8 \\ \hline \square \end{array}$$

13
$$\begin{array}{r} 1,026 \\ \times \quad 8 \\ \hline \square \end{array}$$

14
$$\begin{array}{r} 2,307 \\ \times \quad 3 \\ \hline \square \end{array}$$

15
$$\begin{array}{r} 4,635 \\ \times \quad 7 \\ \hline \square \end{array}$$

16
$$\begin{array}{r} 8,319 \\ \times \quad 8 \\ \hline \square \end{array}$$

ON YOUR OWN

Go to Workbook A:
Practice 1, pages 41–44

Chapter 3

3.1 Multiplying by a 1-Digit Number

LESSON OBJECTIVE

- Use different methods to multiply up to 4-digit numbers by 1-digit numbers, with or without regrouping.

TECHNOLOGY RESOURCES

- *Math in Focus* eBook
- *Math in Focus* Teaching Resources CD
- *Math in Focus* Virtual Manipulatives

DAY 1 Student Book 4A, pp. 77–81

MATERIALS

- 1 number cube per pair
- base-ten blocks for the teacher
- place-value chips per pair and for the teacher
- Place-Value Chart (TRO1) per pair and for the teacher

DAY 2 Student Book 4A, pp. 81–85
Workbook 4A, pp. 41–44

DIFFERENTIATION RESOURCES

- Reteach 4A, pp. 39–48
- Extra Practice 4A, pp. 23–24



5-minute Warm Up

Have students recall multiplying a 2-digit number by a 1-digit number. Working in pairs, one partner states a multiplication problem involving a 2-digit by 1-digit number, and the other partner finds the product. Have students switch roles and repeat. This activity prepares them for more multiplication exercises in this chapter.

3.1 Multiplying by a 1-Digit Number

Lesson Objective

- Use different methods to multiply up to 4-digit numbers by 1-digit numbers, with or without regrouping.

Represent numbers using place-value charts.

213 can be represented in these ways.

Hundreds	Tens	Ones

Hundreds	Tens	Ones

Hundreds	Tens	Ones
2	1	3

Lesson 3.1 Multiplying by a 1-Digit Number 77

Student Book A p. 77

DAY 1 Teach

Learn

Represent Numbers Using Place-Value Charts (page 77)



Students learn to represent numbers using place-value charts.

- Have students look at the example on the page. Use a copy of the Place-Value Chart (TRO1) for demonstration. Explain and show students how **base-ten blocks**, **place-value chips**, and numerals can be used to represent numbers on a place-value chart.

Model multiplication with regrouping in thousands, hundreds, tens, and ones.

Roy's Market sold 2,476 oranges. Ana's Market sold 3 times as many oranges as Roy's Market. How many oranges did Ana's Market sell?
 $2,476 \times 3 = ?$

Step 1 Multiply the ones by 3.
 $6 \text{ ones} \times 3 = 18 \text{ ones}$
 $= 1 \text{ ten } 8 \text{ ones}$

Thousands	Hundreds	Tens	Ones
			6
			3
			8

Step 2 Multiply the tens by 3.
 $7 \text{ tens} \times 3 = 21 \text{ tens}$
 $= 2 \text{ hundreds } 1 \text{ ten}$
 Add the tens.
 $2 \text{ hundreds } 1 \text{ ten} + 1 \text{ ten} = 2 \text{ hundreds } 2 \text{ tens}$

Thousands	Hundreds	Tens	Ones
		7	6
		3	3
		2	8

78 Chapter 3 Whole Number Multiplication and Division

Student Book A p. 78

Step 3 Multiply the hundreds by 3.
 $4 \text{ hundreds} \times 3 = 12 \text{ hundreds}$
 $= 1 \text{ thousand } 2 \text{ hundreds}$
 Add the hundreds.
 $1 \text{ thousand } 2 \text{ hundreds} + 2 \text{ hundreds}$
 $= 1 \text{ thousand } 4 \text{ hundreds}$

Thousands	Hundreds	Tens	Ones
	4		6
	3		3
	7		8
	2		8

Step 4 Multiply the thousands by 3.
 $2 \text{ thousands} \times 3 = 6 \text{ thousands}$
 Add the thousands.
 $6 \text{ thousands} + 1 \text{ thousand} = 7 \text{ thousands}$

Thousands	Hundreds	Tens	Ones
2			6
			3
6			8
7			8

Ana's Market sold 7,428 oranges.

Lesson 3.1 Multiplying by a 1-Digit Number 79

Student Book A p. 79

Learn
Model Multiplication With Regrouping in Thousands, Hundreds, Tens, and Ones (pages 78 and 79)

Students use place-value charts to multiply up to 4-digit numbers by 1-digit numbers with regrouping.

- Using the given example, show students the vertical form for multiplying a 4-digit number by a 1-digit number. Explain that they should multiply from right to left and regroup after multiplying the multiplicand by the multiplier.

Note: Students are not introduced to the terms *multiplicand* and *multiplier*.

- Step 1: Have students multiply the ones. Regroup the tens on the place-value chart. Then write the product in vertical form.
- Step 2: Have students multiply the tens. Show how to regroup the hundreds on the place-value chart. Explain that $7 \text{ tens} \times 3 = 21 \text{ tens} = 2 \text{ hundreds } 1 \text{ ten}$. Add the tens: $2 \text{ hundreds } 1 \text{ ten} + 1 \text{ ten} = 2 \text{ hundreds } 2 \text{ tens}$. Then write the product in vertical form.
- Repeat for hundreds and thousands in Steps 3 and 4.

Problem of the Lesson

Explain how you can solve these problems by addition.

- 4×3
- 5×6
- 2×9

Solution:

Multiplication is repeated addition. So, add each number by the number of times as indicated by the other number.

Answers:

- $3 + 3 + 3 + 3 = 12$
- $6 + 6 + 6 + 6 + 6 = 30$
- $9 + 9 = 18$

Differentiated Instruction

English Language Learners

Help students participate in the Let's Explore discussion on page 84 by asking 'yes/no' questions. **Ask:** Did the student who did the first problem correctly add the thousands? (No) Did the student who did Problem 3 multiply the wrong digits? (Yes)

Guided Practice

Find the missing numbers in each step.

- 1 The next month, Roy's Market sold 6,139 oranges. Ana's Market sold 9 times as many oranges as Roy's Market. How many oranges did Ana's Market sell?

$$6,139 \times 9 = ?$$

Step 1

$$9 \text{ ones} \times 9 = 81 \text{ ones}$$

$$= 8 \text{ tens } 1 \text{ one}$$

Th	H	T	O
6	1	3	9
x			
9			
1			

Step 2

$$3 \text{ tens} \times 9 = 27 \text{ tens}$$

$$= 2 \text{ hundreds } 7 \text{ tens}$$

Add the tens.

$$2 \text{ hundreds } 7 \text{ tens} + 8 \text{ tens}$$

$$= 2 \text{ hundreds } 15 \text{ tens}$$

$$= 3 \text{ hundreds } 5 \text{ tens}$$

6	1	3	9
x			
9			
51			

Step 3

$$1 \text{ hundred} \times 9 = 9 \text{ hundreds}$$

Add the hundreds.

$$9 \text{ hundreds} + 3 \text{ hundreds}$$

$$= 12 \text{ hundreds}$$

$$= 1 \text{ thousand } 2 \text{ hundreds}$$

6	1	3	9
x			
9			
51			
251			

Step 4

$$6 \text{ thousands} \times 9 = 54 \text{ thousands}$$

Add the thousands.

$$54 \text{ thousands} + 1 \text{ thousand}$$

$$= 55 \text{ thousands}$$

Ana's Market sold 55,251 oranges.

6	1	3	9
x			
9			
55			
251			

Multiply. Use place-value charts to help you.

2

1	2	6
x		
4		
504		

3

2	7	8
x		
7		
1,946		

4

4	7	1	6
x			
5			
23,580			

Multiply using the place value of each digit.

$$2,147 \times 4 = ?$$

2	1	4	7
x			
4			
28			
+ 160			
+ 400			
+ 8,000			
8,588			

Guided Practice

Multiply using the method shown above.

5

6	7	4
x		
5		
3,370		

6

8	0	1	2
x			
9			
72,108			

7

9	0	9
x		
9		
81,081		

Check for Understanding

Guided Practice (pages 80 and 81)

- Review the procedure for multiplication with regrouping. Guide students to first multiply the digits in each place before regrouping. Remind students to add the tens that were regrouped from the ones after multiplying the digit in the tens place.
- to 4 Guide students to use the same process of multiplication and regrouping they have learned.

DAY 2 Teach

See the Lesson Organizer on page 77 for Day 2 Resources.

Learn

Multiply Using the Place Value of Each Digit (page 81)

- Show and explain the alternative method of multiplying a 4-digit number by a 1-digit number.

- Ask students to identify the value of each digit before multiplying: $2,147 = 2,000 + 100 + 40 + 7$. Have them multiply each value with the multiplier, starting from the ones. Then add the products.
- This method does not involve regrouping initially. Students may need to regroup when adding products.
- Work through another example using this method, for example, $1,532 \times 7$.

Best Practices List the two multiplication methods with their corresponding pages on the board: Using Place-Value Charts, pages 77 to 79 and Using Place Value of Each Digit, page 81. Have students refer to these pages when solving problems throughout the lesson. Encourage discussion about which method students prefer and why.

Guided Practice (page 81)

- to 7 Reinforce students' understanding of the vertical form and have them use both methods to find the products.

Work in Pairs Game

Roll and Multiply!

Players: 2
Materials:
 • Chip models
 • Number cubes

- Player 1 rolls the number cube four times to get a 4-digit number, for example 3,421.
- Player 2 rolls the number cube once to get a 1-digit number, for example 6.
- Player 1 uses the chip model (shown on pages 79 and 70) to multiply the 4-digit number by the 1-digit number.
- Then Player 1 writes the answer as shown in the example.

Example

4-Digit Number	1-Digit Number	Product
3,421	6	3,421 × 6 = 20,526

- Player 2 checks the answer. Player 1 gets one point if the answer is correct.
- Take turns writing the product and checking the answer. Play three rounds.

The player with the higher score wins!

Chapter 3: Whole Number Multiplication and Division

Student Book A p. 82

READING AND WRITING MATH

Math Journal

Example
 Look at the steps for multiplying a 3-digit number by a 1-digit number.

$$\begin{array}{r} 373 \\ \times 7 \\ \hline 1,503 \end{array}$$

- Multiply the ones by 7.
 3 ones × 7 = 21 ones
 Regroup the ones.
 21 ones = 3 tens 3 ones
- Multiply the tens by 7.
 7 tens × 7 = 49 tens
 Add the ones.
 7 tens + 3 tens = 10 tens
 Regroup the tens.
 10 tens = 1 hundred
- Multiply the hundreds by 7.
 3 hundreds × 7 = 21 hundreds
 Add the hundreds.
 21 hundreds + 1 hundred = 22 hundreds
 Regroup the hundreds.
 22 hundreds = 2 thousand 2 hundreds
 The product is 2,503.

What are the steps to find the product of 6,875 and 3?
 See **Additional Answers**.

Lesson 3.1: Multiplying by a 1-Digit Number

Student Book A p. 83

Work in Pairs Game

Roll and Multiply!

(page 82)

- This activity reinforces understanding of the conventional multiplication algorithm.
- Explain the steps to students and have students play the game in pairs. Remind them to use the chip model and regroup where necessary. Tell them that when checking answers, they may wish to use either method.

For Advanced Learners Students are to write a multiplication problem: 4-digit × 1-digit. They will reveal the 4-digit number and the answer to their partner. The partner has to guess the 1-digit number. Students take turns to reveal and guess the numbers.

READING AND WRITING MATH

Math Journal

(page 83)

Through this activity, students reflect on and express their understanding of the multiplication procedure by listing the steps.

- Review the steps for multiplying a 3-digit number by a 1-digit number, as shown on page 83.
- Have students list the steps for multiplying a 4-digit number by a 1-digit number, using 6,875 × 3 as an example. See **Additional Answers**, pages T50–T51.

Let's Explore!

WORKING SCENARIOS

Three students completed these multiplication problems. Find the errors.

1
$$\begin{array}{r} 1,245 \\ \times 8 \\ \hline 9,960 \end{array}$$
 2
$$\begin{array}{r} 673 \\ \times 3 \\ \hline 18,219 \end{array}$$
 3
$$\begin{array}{r} 1,036 \\ \times 5 \\ \hline 5,180 \end{array}$$

Discuss with your classmates some common errors that students make in multiplication.
See Additional Answers.

Let's Practice

Multiply and find the missing numbers.

1 7 ones \times 4 = **28** ones
= **2** tens **8** ones

2 5 tens \times 8 = **40** tens
= **4** hundreds **0** tens

3 6 hundreds \times 3 = **18** hundreds
= **1** thousand **8** hundreds

84 Chapter 3: Whole Number Multiplication and Division

Student Book A p. 84

Multiply and find the missing numbers.

4 9 thousands \times 2 = **18** thousands
= **1** ten thousand **8** thousands

5 $8 \times 3 =$ **24**

6 $80 \times 3 =$ **240**

7 $800 \times 3 =$ **2,400**

8 $8,000 \times 3 =$ **24,000**

Multiply.

9
$$\begin{array}{r} 104 \\ \times 2 \\ \hline 520 \end{array}$$

10
$$\begin{array}{r} 754 \\ \times 3 \\ \hline 2,262 \end{array}$$

11
$$\begin{array}{r} 217 \\ \times 8 \\ \hline 1,736 \end{array}$$

12
$$\begin{array}{r} 9,110 \\ \times 8 \\ \hline 72,880 \end{array}$$

13
$$\begin{array}{r} 1,026 \\ \times 8 \\ \hline 8,208 \end{array}$$

14
$$\begin{array}{r} 2,307 \\ \times 3 \\ \hline 6,921 \end{array}$$

15
$$\begin{array}{r} 4,635 \\ \times 7 \\ \hline 32,445 \end{array}$$

16
$$\begin{array}{r} 8,319 \\ \times 8 \\ \hline 66,552 \end{array}$$

ON YOUR OWN

Go to Workbook 4A, Practice 1, pages 41–44.

Lesson 3.1 Multiplying by a 1-Digit Number 85

Student Book A p. 85

Let's Explore!

Find Common Errors in Multiplication
(page 84)

- Have students go through the steps for multiplication. Ask them to spot the errors in each multiplication problem and explain how the errors were made.
 - $(1,245 \times 8 = 9,960)$ The regrouped tens, hundreds and thousands were not added.
 - $(673 \times 3 = 2,019)$ Regrouping was not done.
 - $(1,036 \times 5 = 5,180)$ Regrouped 1 hundred was multiplied by 5 instead of multiplying 0 hundreds by 5 and adding the regrouped 1 hundred.
- Have students share and discuss with the class the common errors students make in multiplication.

Let's Practice (page 84)

This practice reinforces students' understanding of the multiplication process using place-value concepts and the vertical form. Exercises 1 to 4 require students to multiply numbers using place-value concepts.

Exercises 5 to 8 require students to use related multiplication facts while Exercises 9 to 16 require students to use the vertical form when multiplying numbers. Students may use the place-value chart to help them complete the exercises.

Common Error Students may forget to add the regrouped numbers when they multiply each place. Have students circle the regrouped number, then cross it out after they have added it.

ON YOUR OWN

Students practice multiplying a 4-digit number by a 1-digit number in Practice 1, pages 41 to 44 of Workbook 4A. These pages (with the answers) are shown on page 85A.

Differentiation Options Depending on students' success with the Workbook pages, use these materials as needed.

Struggling: Reteach 4A, pp. 39–48

On Level: Extra Practice 4A, pp. 23–24

Practice and Apply

Workbook pages for Chapter 3, Lesson 3.1

Chapter 3 Whole Number Multiplication and Division

Practice 1 Multiplying by a 1-Digit Number
Multiply 962 by 6 and find the missing numbers.

Example
Step 1: 2 ones \times 6 = 12 ones

2
\times 6
12

Step 2: 6 tens \times 6 = 36 tens

60
\times 6
360

Step 3: 9 hundreds \times 6 = 54 hundreds

900
\times 6
5,400

1.

9	6	2
\times	6	
	1	2
3	6	0
5	4	0
5	7	7

2 ones \times 6
6 tens \times 6
9 hundreds \times 6

Lesson 3.1 Multiplying by a 1-Digit Number

Workbook A p. 41

Multiply 9,086 by 7 and find the missing numbers.

4. Step 1: 6 ones \times 7 = 42 ones

6
\times 7
42

5. Step 2: 8 tens \times 7 = 56 tens

80
\times 7
560

6. Step 3: 9 hundreds \times 7 = 63 hundreds

900
\times 7
6,300

7. Step 4: 9 thousands \times 7 = 63 thousands

9,000
\times 7
63,000

8.

9	0	8	6
\times	7		
	4	2	
5	6	0	
6	3	0	0
6	3	6	0

6 ones \times 7
8 tens \times 7
9 hundreds \times 7
9 thousands \times 7

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Workbook A p. 42

Multiply.

Example

9	1	2
\times	3	
2	7	6

9.

6	0	5
\times	3	
1	8	5

10.

2	1	3	4
\times	6		
1	2	8	4

11.

4	9	2	0
\times	2		
8	8	4	0

12.

2	0	1	0
\times	4		
1	4	1	0

13.

1	4	7	4
\times	8		
8	8	4	4

14.

8	5	7	2
\times	6		
6	8	8	2

15.

4	0	0	3
\times	8		
8	4	0	3

Lesson 3.1 Multiplying by a 1-Digit Number

Workbook A p. 43

Find each product. Then solve the riddle.

Example

625	\times 6	=	3,750
-----	------------	---	-------

16. $064 \times 8 = 7,712$ (A) 17. $602 \times 5 = 3,410$ (B)

18. $1,685 \times 3 = 5,055$ (W) 19. $1,936 \times 4 = 7,744$ (C)

20. $3,270 \times 3 = 9,810$ (D)

How do you say good-bye to the ocean?
Match the letters to the answers below to find out.

You W A V C
5,055 7,712 2,550 9,810

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Workbook A p. 44

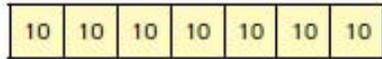
Lesson 2.2 Multiplying by Tens, Hundreds, or Thousands

Lesson Objectives

- Multiply numbers by 10, 100, or 1,000 using patterns.
- Multiply numbers up to 4 digits by multiples of 10, 100, or 1,000.
- Use rounding to estimate products.

Vocabulary
product
factor

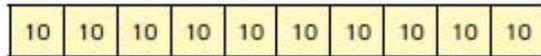
Learn Look for a pattern in the products when 10 is a factor.



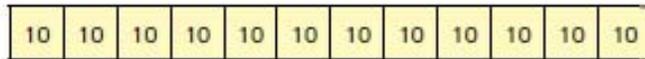
$$7 \times 10 = 70$$



$$9 \times 10 = 90$$



$$10 \times 10 = 100$$



$$12 \times 10 = 120$$

$$7 \times 10 = 7 \text{ tens} \\ = 70$$

$$9 \times 10 = 9 \text{ tens} \\ = 90$$

$$10 \times 10 = 10 \text{ tens} \\ = 100$$

$$12 \times 10 = 12 \text{ tens} \\ = 120$$



Look at the place-value chart.

	Hundreds	Tens	Ones
7			●●●●●●●
7×10		●●●●●●●	
9			●●●●●●●
9×10		●●●●●●●	
10		●	
10×10	●		
12		●	●●
12×10	●	●●	

What is the pattern when each number is multiplied by 10?



	Hundreds	Tens	Ones
7			7
7×10		7	0
9			9
9×10		9	0
10		1	0
10×10	1	0	0
12		1	2
12×10	1	2	0

Each digit moves one place to the left when the number is multiplied by 10.



 **Hands-On Activity**

Copy and complete the table.

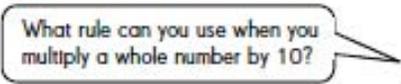
	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
231				2	3	1
231×10			2	3	1	0
2,345			2	3	4	5
$2,345 \times 10$						
4,108			4	1	0	8
$4,108 \times 10$						

Write the products.

1 231×10

2 $2,345 \times 10$

3 $4,108 \times 10$



What rule can you use when you multiply a whole number by 10?

**Guided Practice****Multiply.**

1 60×10

2 135×10

3 503×10

4 $2,876 \times 10$

5 $6,082 \times 10$

6 $6,010 \times 10$

Find the missing factors.

7 $8 \times \square = 80$

8 $22 \times \square = 220$

9 $\square \times 10 = 5,280$

10 $\square \times 10 = 74,600$

**Break apart a number to help you multiply by tens.**

6×20	20	20	20	20	20	20
	10	10	10	10	10	10

$$\begin{aligned}
 6 \times 20 &= 6 \times 2 \text{ tens} \\
 &= (6 \times 2) \times 10 \\
 &= 12 \times 10 \\
 &= 120
 \end{aligned}$$

$$\begin{aligned}
 27 \times 30 &= 27 \times 3 \text{ tens} \\
 &= (27 \times 3) \times 10 \\
 &= 81 \times 10 \\
 &= 810
 \end{aligned}$$

Multiplying a number by 20 is the same as multiplying it by 2 and then by 10.

Multiplying a number by 30 is the same as multiplying it by 3 and then by 10.





Hands-On Activity



Copy and complete the table by multiplying each number by 6 and by 60. An example is shown.

	$\times 6$	$\times 60$
42	252	2,520
65		
861		

Look at the answers in the table. Find the missing numbers.

- 1 $42 \times 60 = (42 \times 6) \times$
- 2 $65 \times 60 = (65 \times \text{)} \times$
- 3 $861 \times 60 = (861 \times \text{)} \times$

Guided Practice

Find the missing numbers.

$$\begin{aligned} 11 \quad 62 \times 40 &= (62 \times 4) \times 10 \\ &= \text{ } \times 10 \\ &= \text{ } \end{aligned}$$

$$\begin{aligned} 12 \quad 307 \times 80 &= (307 \times \text{)} \times 10 \\ &= \text{ } \times 10 \\ &= \text{ } \end{aligned}$$

Multiply.

13 274×50

14 $1,970 \times 90$

15 $8,145 \times 40$

Learn Look for a pattern in the products when 100 or 1,000 is a factor.

100	100	100	100	100
-----	-----	-----	-----	-----

$5 \times 100 = 500$

$5 \times 100 = 5 \text{ hundreds} = 500$

$11 \times 100 = 11 \text{ hundreds} = 1,100$

100	100	100	100	100	100	100	100	100	100	100	100
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

$11 \times 100 = 1,100$



1,000	1,000	1,000	1,000	1,000
-------	-------	-------	-------	-------

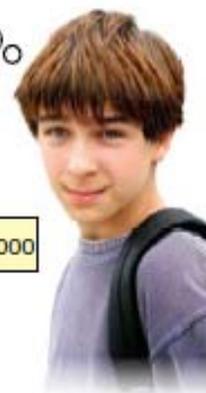
$5 \times 1,000 = 5,000$

$5 \times 1,000 = 5 \text{ thousands} = 5,000$

$11 \times 1,000 = 11 \text{ thousands} = 11,000$

1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------

$11 \times 1,000 = 11,000$



Look at the place-value chart.

	Ten Thousands	Thousands	Hundreds	Tens	Ones
5					•••••
5×100			•••••		
11				•	•
11×100		•	•		
5					•••••
$5 \times 1,000$		•••••			
11				•	•
$11 \times 1,000$	•	•			



	Ten Thousands	Thousands	Hundreds	Tens	Ones
5					5
5×100			5	0	0
11				1	1
11×100		1	1	0	0
5					5
$5 \times 1,000$		5	0	0	0
11				1	1
$11 \times 1,000$	1	1	0	0	0

Each digit moves two places to the left when the number is multiplied by 100.
 Each digit moves three places to the left when the number is multiplied by 1,000.





Hands-On Activity

Copy and complete the table.

	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
174					1	7	4
174×100			1	7	4	0	0
$174 \times 1,000$		1	7	4	0	0	0
3,298				3	2	9	8
$3,298 \times 100$							
$3,298 \times 1,000$							

Write the products.

1 174×100

2 $174 \times 1,000$

3 $3,298 \times 100$

4 $3,298 \times 1,000$

What rule can you use when you multiply a whole number by 100?

What rule can you use when you multiply a whole number by 1,000?



Guided Practice**Multiply.**

16 27×100

17 615×100

18 $9,670 \times 100$

19 $18 \times 1,000$

20 $487 \times 1,000$

21 $5,346 \times 1,000$

Find the missing factors.

22 $26 \times \square = 2,600$

23 $195 \times \square = 195,000$

24 $\square \times 100 = 49,000$

25 $\square \times 1,000 = 168,000$

Learn Break apart a number to help you multiply by hundreds or thousands.

7×200

200	200	200	200	200	200	200	200
100	100	100	100	100	100	100	100

$$\begin{aligned}
 7 \times 200 &= 7 \times 2 \text{ hundreds} \\
 &= (7 \times 2) \times 100 \\
 &= 14 \times 100 \\
 &= 1,400
 \end{aligned}$$

$$\begin{aligned}
 67 \times 5,000 &= 67 \times 5 \text{ thousands} \\
 &= (67 \times 5) \times 1,000 \\
 &= 335 \times 1,000 \\
 &= 335,000
 \end{aligned}$$

Multiplying a number by 200 is the same as multiplying it by 2 and then by 100.

Multiplying a number by 5,000 is the same as multiplying it by 5 and then by 1,000.





Hands-On Activity



Copy and complete the table by multiplying each number by 7, 700 and 7,000. An example is shown.

	$\times 7$	$\times 700$	$\times 7,000$
78	546	54,600	546,000
113			
251			

Look at the answers in the table. Find the missing numbers.

- 1 $78 \times 700 = (78 \times 7) \times$
- 2 $113 \times 700 = (113 \times \text{)} \times$
- 3 $251 \times 700 = (251 \times \text{)} \times$
- 4 $78 \times 7,000 = (78 \times 7) \times$
- 5 $113 \times 7,000 = (113 \times \text{)} \times$
- 6 $251 \times 7,000 = (251 \times \text{)} \times$

Guided Practice

Find the missing numbers.

$$\begin{aligned}
 \textcircled{26} \quad 72 \times 400 &= (72 \times 4) \times 100 \\
 &= \text{ } \times 100 \\
 &= \text{ }
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{27} \quad 123 \times 700 &= (123 \times \text{)} \times \text{ } \\
 &= \text{ } \times 100 \\
 &= \text{ }
 \end{aligned}$$

Find the missing numbers.

$$\begin{aligned} 28 \quad 6 \times 5,000 &= (6 \times 5) \times 1,000 \\ &= \square \times 1,000 \\ &= \square \end{aligned}$$

$$\begin{aligned} 29 \quad 18 \times 6,000 &= (18 \times \square) \times \square \\ &= \square \times 1,000 \\ &= \square \end{aligned}$$

Multiply.

$$30 \quad 81 \times 500$$

$$31 \quad 932 \times 800$$

$$32 \quad 6,455 \times 900$$

$$33 \quad 6,007 \times 800$$

$$34 \quad 73 \times 4,000$$

$$35 \quad 905 \times 8,000$$

$$36 \quad 654 \times 3,000$$

$$37 \quad 807 \times 9,000$$

Learn

Round factors to the nearest ten or hundred to estimate products.

Estimate the product of 632 and 26.

Round 632 to the nearest hundred.

Round 26 to the nearest ten.

632 rounds to 600, and 26 rounds to 30.

$$\begin{aligned} 600 \times 30 &= (600 \times 3) \times 10 \\ &= 1,800 \times 10 \\ &= 18,000 \end{aligned}$$

The product is about 18,000.

Guided Practice**Estimate.**

- 38**
- Estimate the product of 228 and 57.

Round 228 to the nearest hundred.

Round 57 to the nearest ten.

228 rounds to , and 57 rounds to 60.

$$\begin{aligned} \text{ } \times 60 &= (\text{ } \times 6) \times 10 \\ &= \text{ } \times 10 \\ &= \text{ } \end{aligned}$$

39 702×15

40 27×364

41 38×246

42 851×19

43 511×62

44 35×424

Learn**Round factors to the nearest ten or thousand to estimate products.**

A museum gift shop sold 1,215 sets of dinosaur models.

There were 26 dinosaur models in each set.

Estimate the total number of dinosaur models the shop sold.

Round 1,215 to the nearest thousand.

Round 26 to the nearest ten.

1,215 rounds to 1,000, and 26 rounds to 30.

$$\begin{aligned} 1,000 \times 30 &= (1,000 \times 3) \times 10 \\ &= 3,000 \times 10 \\ &= 30,000 \end{aligned}$$

The shop sold about 30,000 dinosaur models.

Guided Practice

Estimate.

- 45 Estimate the product of 1,238 and 56.

Round 1,238 to the nearest thousand.

Round 56 to the nearest ten.

1,238 rounds to 1,000, and 56 rounds to .

$$\begin{aligned} 1,000 \times \text{ } &= (1,000 \times \text{ }) \times \text{ } \\ &= \text{ } \times \text{ } \\ &= \text{ } \end{aligned}$$

46 99×38

47 67×439

48 $9,281 \times 32$

49 $2,065 \times 41$

Let's Practice

Multiply.

1 412×10

2 792×100

3 $740 \times 1,000$

4 703×60

5 815×700

6 $169 \times 3,000$

Estimate each product.

7 $3,711 \times 9$

8 $2,087 \times 37$

9 $1,985 \times 302$

Solve.

- 10 A factory produces 452 beads in 1 minute.
Estimate the number of beads the factory produces in 56 minutes.

ON YOUR OWN

Go to Workbook A:
Practice 2, pages 29–36