

Dividing 4-Digit Numbers

Math Focus Points

- ◆ Dividing a 4-digit number by a 1-digit number

Today's Plan		Materials
1 ACTIVITY Dividing Larger Numbers	 45 MIN  CLASS  INDIVIDUALS	<ul style="list-style-type: none"> • <i>Student Activity Book</i>, pp. 51A–51B or C61–C62, Dividing 4-Digit Numbers by 1-Digit Numbers Make copies. (as needed)
2 DISCUSSION First Steps	 15 MIN  CLASS	<ul style="list-style-type: none"> • <i>Student Activity Book</i>, p. 51A or C61 (completed)
3 SESSION FOLLOW-UP Daily Practice		<ul style="list-style-type: none"> • <i>Student Activity Book</i>, p. 51C or C63, Dividing Large Numbers Make copies. (as needed) • <i>Student Math Handbook</i>, pp. 50–52

Ten-Minute Math

Closest Estimate with 4-Digit Numbers Write each of the following problems on the board, one at a time:

$$1. 3,725 \div 4 \approx \quad 90 \quad 700 \quad 900$$

$$2. 5,953 \div 7 \approx \quad 800 \quad 1,200 \quad 1,600$$

$$3. 8,468 \div 6 \approx \quad 1,000 \quad 1,400 \quad 1,800$$

Give students approximately 30 seconds to look at the three possible estimates and determine which is the closest to the actual answer. Have two or three students explain their reasoning for each problem. Ask students:

- How did you break the numbers apart?
- How did you determine the magnitude of your answer?
- If you changed the numbers in the problem, how did you change them and why?

Also ask if the closest estimate is greater than or less than the actual answer and how students know.

1

ACTIVITY

Dividing Larger Numbers



45 MIN



CLASS



INDIVIDUALS

Tell students that today they will use some of the division strategies they've practiced to divide 4-digit numbers. Write Problem 1 from *Student Activity Book* page 51A or C61 on the board or overhead.

In one day at Honeysweet Apple Orchard, workers picked 1,549 apples. They want to put them in bags of 6. How many bags can they make?

Ask students to solve this problem. Suggest students use a story context to help them keep track of the parts of the problem. As you listen to students discuss the problem, ask questions such as the following:

- Do you think there will be more or fewer than 10 bags? 100 bags? 1,000 bags? Why?
- How can multiplication help you solve the problem?

Bring the class back together and ask students to share how they determined the number of bags. As they respond, record their strategies on the board.

Students might say:

"I started with 100 bags. That was only 600 apples. I doubled that and I got 1,200 apples, so then I was getting closer. I had 349 more apples to put in bags. $6 \times 60 = 360$, so that was too much. I did $6 \times 50 = 300$, and had 49 more apples to go. That's 8 more bags and 1 apple left over. One apple isn't enough to fill another bag, so I just ignored it. Add up the bags: $200 + 50 + 8 = 258$ bags."

$$1,549 \div 6$$

$6 \times 100 = 600$	$6 \times 60 = 360$
$6 \times (200) = 1,200$	$6 \times (50) = 300$
$1,549 - 1,200 = 349$	$349 - 300 = 49$
	$49 \div 6$ is $(8)R1$
$200 + 50 + 8 = 258$	

Name _____ Date _____

How Many Packages? How Many Groups?

Dividing 4-Digit Numbers by 1-Digit Numbers

(page 1 of 2)

Solve each problem and show your work.

- In one day at Honeysweet Apple Orchard, workers picked 1,549 apples. They want to put them in bags of 6. How many bags can they make?
- 1,004 children signed up to play in the Smith City youth basketball league. 8 children will be placed on each team. How many teams of 8 players will there be?
- $2,831 \div 5 =$
- $5,346 \div 7 =$

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▲ Student Activity Book, Unit 8, p. 51A; Resource Masters, C61

Name _____ Date _____

How Many Packages? How Many Groups?

Dividing 4-Digit Numbers by 1-Digit Numbers

(page 2 of 2)

Solve each problem and show your work.

- 1,452 shirts were delivered to a large department store. They came in boxes of 4. How many boxes were delivered?
- 3,018 letters need to be mailed out to members of the City Service Club. Five people are stuffing the envelopes. How should they divide up the task so that each person will stuff the same number of envelopes?
- $4,698 \div 9 =$
- $2,287 \div 3 =$

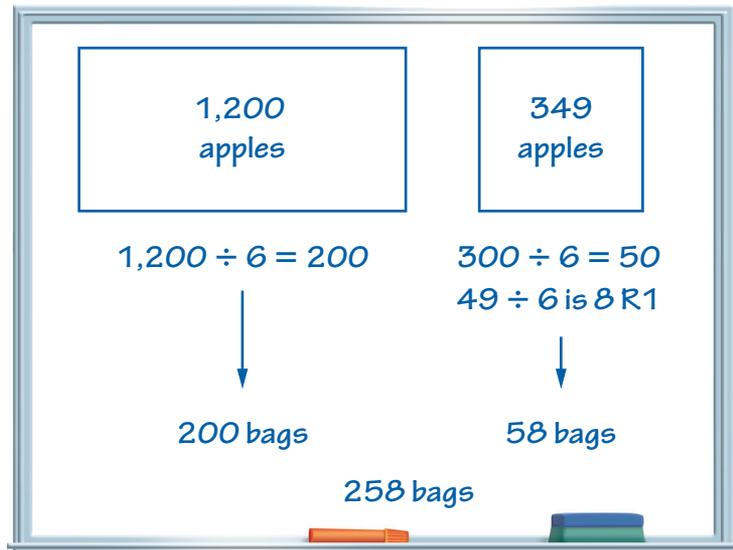
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▲ Student Activity Book, Unit 8, p. 51B; Resource Masters, C62

Students might say:



“I broke up the 1,549 apples into 1,200 apples and 349 apples. I drew a big box for the 1,200 apples and a smaller one for the 349 apples. I made groups of 6 out of each part and I kept track of it under the drawing.”



Some students might not need to make representations of the problem, but they should have a visual image of what is happening when a number of objects is divided into equal-sized groups. Emphasize the groups of 6 that are being made as students share their solutions. Discuss the idea that while the answer to $1,549 \div 6$ is 258 R1, the answer to the word problem is 258.

Have students complete *Student Activity Book* pages 51A and 51B or C61 and C62.

ONGOING ASSESSMENT: Observing Students at Work



Students divide 4-digit numbers by 1-digit numbers.

- Can students solve the problems accurately?
- What strategies do students use to solve the problems?
- Can students accurately express any remainders in the context of the problem?

DIFFERENTIATION: Supporting the Range of Learners



Intervention Some students might not start the problem with large enough numbers of groups to be efficient. If you see students begin building groups in multiples of 10, give them extra practice generating multiples of 100. Then move on to multiples of 200, 300, and so on.

Extension For students who are able to quickly solve these problems, give them some problems in which they divide 4-digit numbers by 2-digit numbers.

2

DISCUSSION

First Steps



15 MIN



CLASS

Math Focus Points for Discussion

- ◆ Dividing a 4-digit number by a 1-digit number

Begin the discussion by asking how students chose to start Problem 3 on *Student Activity Book* page 51A or C61.

Who will share their first step for $2,831 \div 5$?

First steps will likely include $5 \times 400 = 2,000$ and $2,000 \div 5 = 400$. Discuss how to complete the problem beginning with each first step offered. Ask if anyone started with $2,500 \div 5 = 500$.

Check that students understand the problem. Write $2,831 \div 5$ is 566 R1 and ask them what each of the numbers mean. You might want to provide a context for the problem, such as the following:

The Nature Club collected \$2,831 to buy boxes of dog food for a dog shelter. Each box costs \$5. How many boxes can the club buy?

Ask students to relate each number in the problem and the answer to the story. Then ask students what the remainder means.

For these problems, did you find you could use the same division strategies you've used with smaller numbers? What was the same or different?

Name _____ Date _____

How Many Packages? How Many Groups? Daily Practice 

Dividing Large Numbers

Solve each problem and show your work.

NOTE Students divide a digit number by a 1-digit number.

1. A football stadium has 4,890 seats. There are 6 sections of seats with the same number of seats in each section. How many seats are in each section?
2. A big company is planning to have a dinner for 1,418 people. How many tables are needed if 8 people will sit at each table?
3. $2,212 \div 7 =$
4. $4,676 \div 2 =$

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Session 3.5A Unit 8 **51C**

▲ Student Activity Book, Unit 8, p. 51C; Resource Masters, C63

Do you think these problems are harder to solve than the division problems with 2-digit divisors?

Students might say:



“These were a lot easier because if it’s a 2-digit divisor you have to think about what to multiply by a 2-digit number to get to the number, and it’s easier to multiply by 1 digit.”



“I just started by multiplying the 1-digit number by a multiple of 100 that got me close to the number and then figured out what I still had left. This was pretty easy.”



“The answers to problems were a lot bigger. It was harder for me to keep track of how many of such a small number would fit into such a big number.”

3

SESSION FOLLOW-UP

Daily Practice



Daily Practice: For reinforcement of this unit’s content, have students complete *Student Activity Book* page 51C or C63.



Student Math Handbook: Students and families may use *Student Math Handbook* pages 50–52 for reference and review. See pages 135–138 in the back of Unit 8.



Dividing Large Numbers

Solve each problem and show your work.

NOTE Students divide 4-digit numbers by 1-digit numbers.

1. A football stadium has 4,890 seats. There are 6 sections of seats with the same number of seats in each section. How many seats are in each section?

2. A big company is planning to have a dinner for 1,418 people. How many tables are needed if 8 people will sit at each table?

3. $2,212 \div 7 =$

4. $4,676 \div 2 =$

Name _____

Date _____

How Many Packages? How Many Groups?

Daily Practice



Flea Market

Solve each problem and show your work.

NOTE Students divide 4-digit numbers by 1-digit numbers.

1. Mr. Diaz makes bracelets and sells them at flea markets. He uses 8 beads for each bracelet. Mr. Diaz has a bag of 1,500 beads. How many bracelets can he make?

2. Ms. Lang has a collection of 2,106 old postcards that she bought at flea markets. She stores them in 6 boxes, with the same number in each box. How many postcards are in each box?

3. $3,241 \div 7 =$

4. $6,708 \div 4 =$