

Name \_\_\_\_\_

## Estimate Quotients Using Multiples

**Find two numbers the whole-number quotient of  $142 \div 5$  is between. Then estimate the whole-number quotient.**

You can use multiples to estimate. A **multiple** of a number is the product of a number and a counting number.

**Step 1** Think: What number multiplied by 5 is about 142?

Since 142 is greater than  $10 \times 5$ , or 50, use counting numbers 10, 20, 30, and so on to find multiples of 5.

**Step 2** Multiply 5 by multiples of 10 and make a table.

Counting Number	10	20	30	40
Multiple of 5	50	100	150	200

**Step 3** Use the table to find multiples of 5 closest to 142.

$$20 \times 5 = \underline{100} \quad \leftarrow 142 \text{ is between } \underline{100} \text{ and } \underline{150}.$$

$$30 \times 5 = \underline{150}$$

142 is closer to 150, so  $142 \div 5$  is about 30.

**Find two numbers the whole-number quotient is between. Then estimate the whole-number quotient.**

1.  $136 \div 6$

between \_\_\_\_\_ and \_\_\_\_\_

about \_\_\_\_\_

2.  $95 \div 3$

between \_\_\_\_\_ and \_\_\_\_\_

about \_\_\_\_\_

3.  $124 \div 9$

between \_\_\_\_\_ and \_\_\_\_\_

about \_\_\_\_\_

4.  $238 \div 7$

between \_\_\_\_\_ and \_\_\_\_\_

about \_\_\_\_\_

## Estimating Quotients

Match each whole-number quotient with its best estimate. Then write the letter of the estimate on the appropriate blank to answer the question below.

1. $342 \div 8$	about 50	E
2. $93 \div 7$	about 15	M
3. $125 \div 6$	about 12	I
4. $74 \div 5$	about 20	T
5. $275 \div 4$	about 70	E
6. $35 \div 3$	about 40	A
7. $481 \div 9$	about 18	T
8. $127 \div 7$	about 13	S

What did you do to find the missing word?

 $\underline{5}$  $\underline{2}$  $\underline{8}$  $\underline{6}$  $\underline{4}$  $\underline{1}$  $\underline{3}$  $\underline{7}$

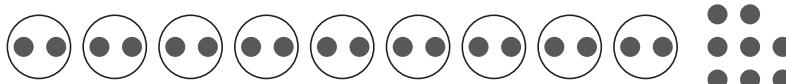
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# Remainders

**Use counters to find the whole-number quotient and remainder.**

$$9 \overline{)26}$$

- Use 26 counters to represent the dividend, 26.
- Since you are dividing 26 by 9, draw 9 circles.  
Divide the 26 counters into 9 equal-sized groups.



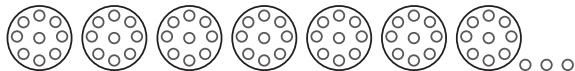
- There are 2 counters in each circle, so the whole-number quotient is **2**.  
There are 8 counters left over, so the remainder is **8**.

$$2 \text{ r}8$$
  
$$9 \overline{)26}$$

**Divide. Draw a quick picture to help.**

$$7 \overline{)66}$$

- Use 66 counters to represent the dividend, 66.
- Since you are dividing 66 by 7, draw 7 circles.  
Divide 66 counters into 7 equal-sized groups.



- There are 9 counters in each circle, so the quotient is **9**.  
There are 3 counters left over, so the remainder is **3**.

$$9 \text{ r}3$$
  
$$7 \overline{)66}$$

**Use counters to find the whole-number quotient and remainder.**

1.  $6 \overline{)19}$

2.  $3 \overline{)14}$

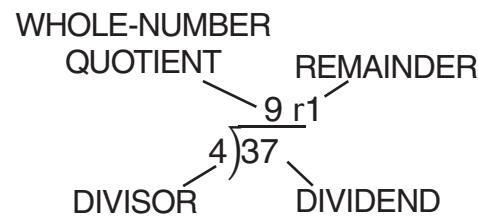
**Divide. Draw a quick picture to help.**

3.  $39 \div 4$

4.  $29 \div 3$

## Riddle Time

Use the clues to solve the riddles below. You will need to know the name for each part of a division equation. Use the division problem at the right as a reminder.



1. My divisor is 5.

I am greater than  $4 \times 5$ .  
I am less than  $5 \times 5$ .  
My remainder is 1.  
What dividend am I?

---

3. My divisor is 8.

I am less than 30.  
I am greater than  $3 \times 8$ .  
My remainder is 5.  
What dividend am I?

---

5. My dividend is 50.

My remainder is 1.  
I am an odd number.  
What divisor am I?

---

7. My remainder is 8.

My dividend is 80.  
I am a 1-digit number.  
What divisor am I?

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9. **Write Math** Use Exercises 1–8 as models to write your own division number riddle.

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2. My divisor is 9.

I am greater than  $7 \times 9$ .  
I am less than  $8 \times 9$ .  
My remainder is 7.  
What dividend am I?

---

4. My divisor is 6.

I am less than 60.  
I am greater than  $8 \times 6$ .  
I have no remainder.  
What dividend am I?

---

6. My dividend is 8 times as large as my divisor.

I am an even number less than 15.  
What whole-number quotient am I?

---

8. My dividend is 24.

I am 2 more than my whole-number quotient. I have no remainder.  
What divisor am I?

---

## Interpret the Remainder

When you solve a division problem with a remainder, the way you interpret the remainder depends on the situation and the question.

### Way 1: Write the remainder as a fraction.

Callie has a board that is 60 inches long. She wants to cut 8 shelves of equal length from the board and use the entire board. How long will each shelf be?

Divide.  $60 \div 8$  7 r4

The remainder, 4 inches, can be divided into 8 equal parts.

$$\begin{array}{r} 4 \leftarrow \text{remainder} \\ 8 \leftarrow \text{divisor} \end{array}$$

Write the remainder as a fraction.

Each shelf will be  $7\frac{4}{8}$  inches long.

### Way 2: Drop the remainder.

### Way 2: Drop the remainder.

Callie has 60 beads. She wants to make 8 identical bracelets and use as many beads as possible on each bracelet. How many beads will be on each bracelet?

Divide.  $60 \div 8$  7 r4

The remainder is the number of beads left over. Those beads will not be used. Drop the remainder.

Callie will use 7 beads on each bracelet.

### Way 3: Add 1 to the whole-number quotient.

Callie has 60 beads. She wants to put 8 beads in each container. How many containers will she need?

Divide.  $60 \div 8$  7 r4

The answer shows that Callie can fill 7 containers but will have 4 beads left over. She will need 1 more container for the 4 leftover beads. Add 1 to the whole-number quotient.

Callie will need 8 containers.

### Way 4: Use only the remainder.

Callie has 60 stickers. She wants to give an equal number of stickers to 8 friends. She will give the leftover stickers to her sister. How many stickers will Callie give to her sister?

Divide.  $60 \div 8$  7 r4

The remainder is the number of stickers left over. Use the remainder as the answer.

Callie will give her sister 4 stickers.

1. There are 35 students going to the zoo. Each van can hold 6 students. How many vans are needed?
2. Sue has 55 inches of ribbon. She wants to cut the ribbon into 6 equal pieces. How long will each piece be?

## Remainder Questions

Read each scenario. Use the scenario to write questions that would have the given answers.

1. There are 52 students in the fourth grade. Each minivan can hold 6 students. The students are going on a field trip.

8 \_\_\_\_\_

\_\_\_\_\_

9 \_\_\_\_\_

\_\_\_\_\_

4 \_\_\_\_\_

\_\_\_\_\_

2. Six friends are going on a hike. Becky made 64 ounces of trail mix.

$10\frac{4}{6}$  \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3.  Why is it important to read division problems carefully before giving the answer?

\_\_\_\_\_

\_\_\_\_\_

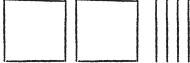
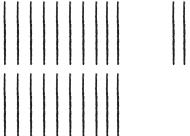
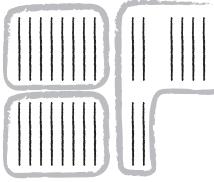
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Name \_\_\_\_\_

# Divide Tens, Hundreds, and Thousands

You can use base-ten blocks, place value, and basic facts to divide.

**Divide.**  $240 \div 3$

Use base-ten blocks.	Use place value.
<p><b>Step 1</b> Draw a quick picture to show 240.</p> 	<p><b>Step 1</b> Identify the basic fact to use. Use <math>24 \div 3</math>.</p>
<p><b>Step 2</b> You cannot divide 2 hundreds into 3 equal groups. Rename 2 hundreds as tens.</p> <p><math>240 = \underline{24}</math> tens</p> 	<p><b>Step 2</b> Use place value to rewrite 240 as tens.</p> <p><math>240 = \underline{24}</math> tens</p>
<p><b>Step 3</b> Separate the tens into 3 equal groups to divide.</p> <p>There are 3 groups of <math>\underline{8}</math> tens. Write the answer.</p> <p><math>240 \div 3 = \underline{80}</math></p> 	<p><b>Step 3</b> Divide.</p> <p><math>24 \text{ tens} \div 3 = \underline{8} \text{ tens}</math>  <math>= \underline{80}</math></p> <p>Write the answer.</p> <p><math>240 \div 3 = \underline{80}</math></p>

**Use basic facts and place value to find the quotient.**

1.  $280 \div 4$

What division fact can you use?

---

$280 = \underline{\hspace{2cm}}$  tens

$28 \text{ tens} \div 4 = \underline{\hspace{2cm}}$  tens

$280 \div 4 = \underline{\hspace{2cm}}$

2.  $1,800 \div 9$

What division fact can you use?

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$1,800 = \underline{\hspace{2cm}}$  hundreds

$18 \text{ hundreds} \div 9 = \underline{\hspace{2cm}}$  hundreds

$1,800 \div 9 = \underline{\hspace{2cm}}$

3.  $560 \div 7 = \underline{\hspace{2cm}}$

4.  $180 \div 6 = \underline{\hspace{2cm}}$

5.  $1,500 \div 5 = \underline{\hspace{2cm}}$

6.  $3,200 \div 4 = \underline{\hspace{2cm}}$

## Dividend Riddles

**Solve each riddle.**

1. When divided by 5, I am 60. When divided by 6, I am 50. What number am I?

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3. When divided by 8, I am 70. When divided by 7, I am 80. What number am I?

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5. When divided by 6, I am 200. When divided by 4, I am 300. What number am I?

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7. **Stretch Your Thinking** Find the sum of the six answers to the riddles. Write your own riddle so that the answer is this sum.

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2. When divided by 3, I am 700. When divided by 7, I am 300. What number am I?

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4. When divided by 7, I am 400. When divided by 4, I am 700. What number am I?

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6. When divided by 8, I am 30. When divided by 6, I am 40. What number am I?

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## Estimate Quotients Using Compatible Numbers

**Compatible numbers** are numbers that are easy to compute mentally. In division, one compatible number divides evenly into the other. Think of the multiples of a number to help you find compatible numbers.

**Estimate.**  $6\overline{)216}$

**Step 1** Think of these multiples of 6:

6      12      18      24      30      36      42      48      54

Find multiples that are close to the first 2 digits of the dividend.

18 tens and 24 tens are both close to 21 tens. You can use either or both numbers to estimate the whole-number quotient.

**Step 2** Estimate using compatible numbers.

$$\begin{array}{r} 216 \div 6 \\ \downarrow \\ 180 \div 6 = 30 \end{array}$$

$$\begin{array}{r} 216 \div 6 \\ \downarrow \\ 240 \div 6 = 40 \end{array}$$

So,  $216 \div 6$  is between 30 and 40.

**Step 3** Decide whether the estimate is closer to 30 or 40.

$$216 - 180 = 36 \quad 240 - 216 = 24$$

$216$  is closer to  $240$ , so use 40 as the estimate.

Use compatible numbers to estimate the whole-number quotient.

1.  $3\overline{)252}$

2.  $6\overline{)546}$

3.  $4\overline{)2,545}$

4.  $5\overline{)314}$

5.  $2\overline{)1,578}$

6.  $8\overline{)289}$

## Make the Best Estimate

One of the division expressions in columns A, B, and C is the best match for the Estimate column. Circle the best choice for each.

Estimate	A	B	C
<b>1.</b> 70	$408 \div 7$	$8\overline{)545}$	$816 \div 9$
<b>2.</b> 80	$3\overline{)251}$	$342 \div 5$	$477 \div 7$
<b>3.</b> 90	$332 \div 5$	$8\overline{)628}$	$9\overline{)780}$
<b>4.</b> 40	$9\overline{)350}$	$423 \div 8$	$538 \div 9$
<b>5.</b> 100	$410 \div 2$	$593 \div 6$	$4\overline{)849}$
<b>6.</b> 400	$4\overline{)1,584}$	$5\overline{)1,126}$	$712 \div 3$
<b>7.</b> 200	$2,384 \div 5$	$3,006 \div 8$	$1,742 \div 9$
<b>8.</b> 700	$2,663 \div 5$	$6\overline{)3,411}$	$7\overline{)5,026}$
<b>9.</b> 300	$2\overline{)532}$	$4\overline{)767}$	$2\overline{)289}$
<b>10.</b> 120	$628 \div 8$	$3\overline{)296}$	$483 \div 4$
<b>11.</b> 50	$115 \div 4$	$4\overline{)198}$	$317 \div 5$
<b>12.</b> 20	$8\overline{)274}$	$221 \div 7$	$6\overline{)141}$
<b>13.</b> 900	$8,250 \div 9$	$5,740 \div 8$	$2,992 \div 4$
<b>14.</b> 150	$6\overline{)909}$	$8\overline{)1,040}$	$7\overline{)881}$
<b>15.</b> 60	$256 \div 6$	$189 \div 3$	$182 \div 5$

**16. Write Math** What strategy did you use to help you choose the best match?

**17. Stretch Your Thinking** Create three of your own division expressions as estimates for Exercise 15. Circle the choice that has the best estimate.

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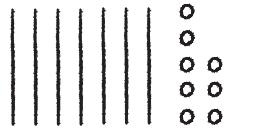
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# Division and the Distributive Property

## Divide. $78 \div 6$

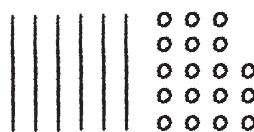
Use the Distributive Property and quick pictures to break apart numbers to make them easier to divide.

**Step 1** Draw a quick picture to show 78.



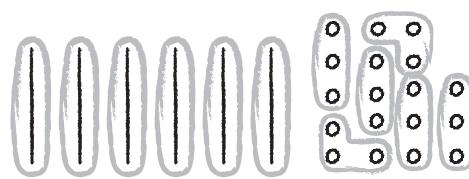
**Step 2** Think about how to break apart 78.

You know  $6 \text{ tens} \div 6 = 10$ , so use  $78 = 60 + 18$ . Draw a quick picture to show 6 tens and 18 ones.



**Step 3** Draw circles to show  $6 \text{ tens} \div 6$  and  $18 \text{ ones} \div 6$ . Your drawing shows the use of the Distributive Property.

$$78 \div 6 = \underline{(60 \div 6)} + \underline{(18 \div 6)}$$



**Step 4** Add the quotients to find  $78 \div 6$ .

$$\begin{aligned} 78 \div 6 &= (60 \div 6) + (18 \div 6) \\ &= \underline{10} + \underline{3} \\ &= \underline{13} \end{aligned}$$

**Use quick pictures to model the quotient.**

1.  $84 \div 4 = \underline{\quad}$

2.  $54 \div 3 = \underline{\quad}$

3.  $68 \div 2 = \underline{\quad}$

4.  $65 \div 5 = \underline{\quad}$

5.  $96 \div 8 = \underline{\quad}$

6.  $90 \div 6 = \underline{\quad}$

## True or Not True?

**The Associative Property of Multiplication states that when you change the grouping of factors, the product remains the same:  $(3 \times 4) \times 5 = 12 \times 5$ , or 60, and  $3 \times (4 \times 5) = 3 \times 20$ , or 60.**

**Is the Associative Property also true for division?**

**Complete Exercises 1–4.**

1.  $(8 \div 4) \div 1 =$  \_\_\_\_\_ and  $8 \div (4 \div 1) =$  \_\_\_\_\_
2.  $(10 \div 2) \div 1 =$  \_\_\_\_\_ and  $10 \div (2 \div 1) =$  \_\_\_\_\_
3. When you changed the grouping in Exercises 1 and 2, what happened to the quotient?

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4. Now use the numbers 2, 4, and 8 to write and evaluate a division expression. Then change the grouping of the numbers and evaluate the new expression.

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5. When you changed the grouping in Exercise 3, what happened to the quotient?

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6.  Is the Associative Property true for division? **Explain.**

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Name \_\_\_\_\_

## Divide Using Repeated Subtraction

You can use repeated subtraction to divide. Use repeated subtraction to solve the problem.

Nestor has 27 shells to make bracelets. He needs 4 shells for each bracelet. How many bracelets can he make?

**Divide.**  $27 \div 4$

Write  $4\overline{)27}$ .

**Step 1**

Subtract the divisor until the remainder is less than the divisor. Record a 1 each time you subtract.

$$\begin{array}{r}
 4\overline{)27} \\
 -4 \\
 \hline
 23 \\
 -4 \\
 \hline
 19 \\
 -4 \\
 \hline
 15 \\
 -4 \\
 \hline
 11 \\
 -4 \\
 \hline
 7 \\
 -4 \\
 \hline
 3
 \end{array}
 \quad \begin{array}{r}
 1 \\
 1 \\
 1 \\
 1 \\
 1 \\
 1
 \end{array}$$

**Step 2**

Count the number of times you subtracted the divisor, 4.

4 is subtracted six times with 3 left.

$$27 \div 4$$

$$\underline{6 \text{ r}3}$$

So, Nestor can make 6 bracelets. He will have 3 shells left.

**Use repeated subtraction to divide.**

1.  $30 \div 4$

\_\_\_\_\_

2.  $24 \div 5$

\_\_\_\_\_

3.  $47 \div 7$

\_\_\_\_\_

# Subtraction Situations

Each situation below involves repeated subtraction. Read each situation. Use the given information to solve the related division problem. Explain your reasoning.

1. There are 51 fourth-graders going on a field trip. One group of 16 students rides in one van. A second group of 16 students rides in a second van. A third group of 16 students rides in a third van. The 3 students who are left ride in a car.

2. Kate bakes 144 cookies for a bake sale. She places 3 cookies in one bag, 3 cookies in a second bag, and so on, until there are no cookies left. She has 48 bags of 3 cookies each.

Find the whole-number quotient.

$$51 \div 8$$

2. Kate bakes 144 cookies for a bake sale. She places 3 cookies in one bag, 3 cookies in a second bag, and so on, until there are no cookies left. She has 48 bags of 3 cookies each.

Find the whole-number quotient.

$$144 \div 9$$

3. **Write Math** ➔ Describe how the given situations helped you solve the division problems.

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Name \_\_\_\_\_

# Divide Using Partial Quotients

You can use partial quotients to divide.

**Divide.**  $492 \div 4$

**Step 1** Subtract greater multiples of the divisor. Repeat if needed.

**Step 2** Subtract lesser multiples of the divisor. Repeat until the remaining number is less than the divisor.

**Step 3** Add the partial quotients.

$$\begin{array}{r}
 4 \overline{)492} \\
 -400 \\
 \hline
 92 \\
 -80 \\
 \hline
 12 \\
 -12 \\
 \hline
 0
 \end{array}
 \quad \begin{array}{l}
 \text{Partial} \\
 \text{quotients}
 \end{array}
 \quad \begin{array}{r}
 100 \times 4 \\
 20 \times 4 \\
 3 \times 4
 \end{array}
 \quad \begin{array}{r}
 100 \\
 20 \\
 +3 \\
 \hline
 123
 \end{array}$$

**Use rectangular models to record partial quotients.**

$$\underline{100} + \underline{20} + \underline{3} = \underline{123}$$

$$\begin{array}{r}
 100 \\
 4 \boxed{400} \quad | \quad 80 \quad 12 \\
 \hline
 492 \\
 -400 \\
 \hline
 92
 \end{array}
 \quad
 \begin{array}{r}
 100 \quad 20 \\
 4 \boxed{400} \quad | \quad 80 \quad 12 \\
 \hline
 92 \\
 -80 \\
 \hline
 12
 \end{array}
 \quad
 \begin{array}{r}
 100 \quad 20 \quad 3 \\
 4 \boxed{400} \quad | \quad 80 \quad 12 \\
 \hline
 12 \\
 -12 \\
 \hline
 0
 \end{array}$$

**Divide. Use partial quotients.**

1.  $3 \overline{)657}$

$$\underline{\quad} \quad 100 \times \underline{\quad} \quad 100$$

$$\underline{\quad} \quad 100 \times \underline{\quad} \quad \underline{\quad}$$

$$\underline{\quad} \quad \underline{\quad} \times \underline{\quad} \quad \underline{\quad}$$

$$\underline{\quad} \quad \underline{\quad} \times \underline{\quad} \quad + \underline{\quad}$$

**Divide. Use rectangular models to record the partial quotients.**

2.  $852 \div 6 = \underline{\quad}$

# Special Delivery

**Mailbox #2 only accepts letters with numbers that can be evenly divided by 2.**

**Mailbox #3 only accepts letters with numbers that can be evenly divided by 3.**

**Mailbox #5 only accepts letters with numbers that can be evenly divided by 5.**

1. Deliver the letters by writing each number below the correct mailbox. Some letters will be undeliverable.

458	41	129	236	625
243	284	29	149	355
813	152	85	120	339



\_\_\_\_\_

\_\_\_\_\_

2. **Write Math** Could any letter be delivered to all three mailboxes? Explain your reasoning.

## Explain your

Could any letter be delivered to all three mailboxes?

**Explain** your reasoning.

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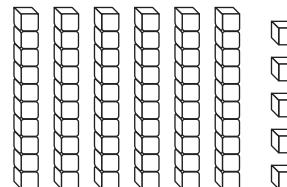
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## Model Division with Regrouping

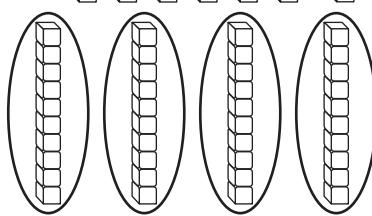
You can use base-ten blocks to model division with regrouping.

**Use base-ten blocks to find the whole-number quotient  $65 \div 4$ .**

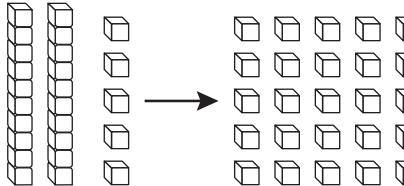
**Step 1** Show 65 with base-ten blocks.



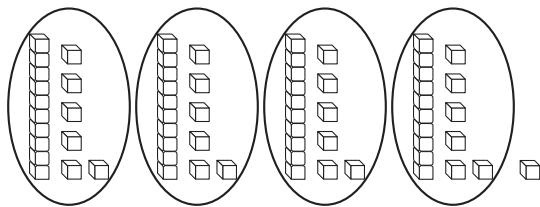
**Step 2** Draw 4 circles to represent dividing 65 into 4 equal groups. Share the tens equally among the 4 groups.



**Step 3** Regroup leftover tens as ones.



**Step 4** Share the ones equally among the 4 groups.



There are 1 ten(s) and 6 one(s) in each group with 1 left over.

So, the whole-number quotient is 16 r1.

**Divide. Use base-ten blocks.**

1.  $37 \div 2$

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2.  $74 \div 3$

---

3.  $66 \div 5$

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## Division Drying

To find the answer to the riddle, complete each division.

Then use the KEY to find the answer to the riddle.

1.  $78 \div 6$

\_\_\_\_\_

2.  $58 \div 3$

\_\_\_\_\_

3.  $92 \div 4$

\_\_\_\_\_

4.  $88 \div 7$

\_\_\_\_\_

5.  $57 \div 2$

\_\_\_\_\_

6.  $89 \div 5$

\_\_\_\_\_

KEY:

A	D	E	L	O	T	U	V	W
13	23 r1	28 r1	17 r4	23	19 r1	17 r2	16 r2	12 r4

**Riddle:** The more I dry, the wetter I get. What am I?

— — — — — —  
1 2 3 4 5 6

7. **Stretch Your Thinking** Make up a new division problem for Exercise 2 so that when using the quotient and the key, the result will be the answer to this riddle: "What is the difference between SHELL and SHALL?"

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

## Place the First Digit

Divide.  $763 \div 3 =$

**Step 1** Estimate. Then divide the hundreds.

**Think:**  $3 \times 1$  hundred = 3 hundreds

$3 \times 2$  hundreds = 6 hundreds

$3 \times 3$  hundreds = 9 hundreds

$3 \times 3$  hundreds is greater than 7 hundreds.

Use 2 hundreds as an estimate.

**Step 2** There is 1 hundred left over. Regroup 1 hundred, now there are 16 tens. Divide the tens.

$$\begin{array}{r} 2 \\ 3 \overline{)763} \\ -6 \\ \hline 16 \end{array} \quad \begin{array}{l} \text{16 tens} \\ \text{---} \end{array}$$

**Step 3** There is 1 ten left over. Regroup 1 ten, now there are 13 ones. Divide the ones.

$$\begin{array}{r} 25 \\ 3 \overline{)763} \\ -6 \\ \hline 16 \\ -15 \\ \hline 13 \end{array} \quad \begin{array}{l} \text{13 ones} \\ \text{---} \end{array}$$

$$\begin{array}{r} 2 \\ 3 \overline{)763} \\ -6 \\ \hline 1 \end{array} \quad \begin{array}{l} \text{Divide 7 hundreds by 3.} \\ \text{Multiply. } 3 \times 2 \text{ hundreds} \\ \text{Subtract.} \end{array}$$

$$\begin{array}{r} 25 \\ 3 \overline{)763} \\ -6 \\ \hline 16 \\ -15 \\ \hline 1 \end{array} \quad \begin{array}{l} \text{Divide 16 tens by 3.} \\ \text{Multiply. } 3 \times 5 \text{ tens} \\ \text{Subtract.} \end{array}$$

$$\begin{array}{r} 254 \\ 3 \overline{)763} \\ -6 \\ \hline 16 \\ -15 \\ \hline 13 \\ -12 \\ \hline 1 \end{array} \quad \begin{array}{l} \text{Divide 13 ones by 3.} \\ \text{Multiply. } 3 \times 4 \text{ ones} \\ \text{Subtract.} \end{array}$$

**Step 4** Check to make sure that the remainder is less than the divisor. Write the answer.

$$\begin{array}{r} 254 \text{ r}1 \\ 3 \overline{)763} \\ 1 < 3 \end{array}$$

**Divide.**

1.  $2 \overline{)531}$

2.  $4 \overline{)628}$

3.  $9 \overline{)349}$

4.  $7 \overline{)794}$

## How Many Digits?

Circle how many digits will be in the quotient. Find the quotient to check that you are correct. Then, look at the riddle below. To answer the riddle, write the letter of the number you circled on the line above the exercise number.

1.  $346 \div 2 =$  \_\_\_\_\_

1 = P    2 = R    3 = N

2.  $108 \div 9 =$  \_\_\_\_\_

1 = T    2 = A    3 = C

3.  $652 \div 4 =$  \_\_\_\_\_

1 = L    2 = I    3 = H

4.  $210 \div 5 =$  \_\_\_\_\_

1 = R    2 = S    3 = N

5.  $120 \div 8 =$  \_\_\_\_\_

1 = S    2 = C    3 = W

6.  $162 \div 6 =$  \_\_\_\_\_

1 = G    2 = E    3 = J

7.  $420 \div 7 =$  \_\_\_\_\_

1 = C    2 = M    3 = E

8.  $444 \div 4 =$  \_\_\_\_\_

1 = K    2 = E    3 = I

What can run but cannot walk?

$\overline{7}$

$\overline{2}$

$\overline{5}$

$\overline{3}$

$\overline{8}$

$\overline{1}$

$\overline{6}$

$\overline{4}$

Name \_\_\_\_\_

## Divide by 1-Digit Numbers

**Divide.**  $766 \div 6 =$

**Step 1** Use place value to place the first digit.

**Think:** 7 hundreds can be shared among 6 groups without regrouping.

**Step 2** There is 1 hundred left over. Regroup 1 hundred, now there are 16 tens. Divide the tens.

$$\begin{array}{r} 1 \\ 6 \overline{)766} \\ -6 \\ \hline 16 \end{array}$$

16 tens

**Step 3** There are 4 tens left over. Regroup 4 tens, now there are 46 ones. Divide the ones.

$$\begin{array}{r} 12 \\ 6 \overline{)766} \\ -6 \\ \hline 16 \\ -12 \\ \hline 46 \end{array}$$

46 ones

**Step 4** Check to make sure that the remainder is less than the divisor. Write the answer.

**Step 5** Use multiplication and addition to check your answer.

$$\begin{array}{r} 1 \\ 6 \overline{)766} \end{array}$$

The first digit is in the hundreds place.

$$\begin{array}{r} 12 \\ 6 \overline{)766} \\ -6 \\ \hline 16 \\ -12 \\ \hline 4 \end{array}$$

Divide 16 tens by 6.  
Multiply.  $6 \times 2$  tens  
Subtract.

$$\begin{array}{r} 127 \\ 6 \overline{)766} \\ -6 \\ \hline 16 \\ -12 \\ \hline 46 \\ -42 \\ \hline 4 \end{array}$$

Divide 46 ones by 6.  
Multiply.  $6 \times 7$  ones  
Subtract.

$$\begin{array}{r} 127 \text{ r}4 \\ 6 \overline{)766} \end{array}$$

$4 < 6$

$$\begin{array}{r} 127 \\ \times 6 \\ \hline 762 \\ + 4 \\ \hline 766 \end{array}$$

quotient  
divisor  
remainder  
dividend

**Divide and check.**

1.  $4 \overline{)868}$

2.  $2 \overline{)657}$

3.  $7 \overline{)8,473}$

## What Is Left Over ?

Find the “leftover” in each situation. Then use the code key to see which letters match each of your answers. Write the letters in order of the exercises to find the answer to the riddle.

1. Jude puts 6 lemons in each bag. If he has 170 lemons, how many will be left over?  
\_\_\_\_\_
2. Selena has a piece of ribbon that is 130 inches long. If she wants to make bracelets that are 9 inches long, how many inches of ribbon will be left over?  
\_\_\_\_\_
3. Justin prepares 229 hamburgers for a company picnic. If buns come in packages of 8, how many will be left over?  
\_\_\_\_\_
4. Mrs. Bradley has \$204 to divide equally between her 7 grandchildren. How many dollars will she have left over?  
\_\_\_\_\_

5. Mr. White has 115 tulips for bouquets. He puts 9 tulips in each bouquet. How many tulips will be left over?  
\_\_\_\_\_

1	2	3	4	5	6	7	8
G	F	E	L	A	N	S	T

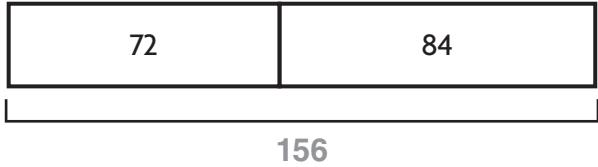
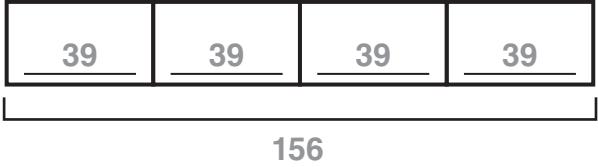
What flies around all day but never goes anywhere?

---

Name \_\_\_\_\_

## Problem Solving • Multistep Division Problems

There are 72 third graders and 84 fourth graders going on a field trip. An equal number of students will ride on each of 4 buses. How many students will ride on each bus?

Read the Problem	Solve the Problem
<p><b>What do I need to find?</b> I need to find the number of <u>students</u> who will ride on each bus.</p>	<p>I can model the number of students in all using a bar model.</p> 
<p><b>What information do I need to use?</b> There are <u>72</u> third graders and <u>84</u> fourth graders. There will be <u>4</u> buses.</p>	<p>I can model the number of buses and divide to find the number of students on each bus.</p> 
<p><b>How will I use the information?</b> I will make a bar model for each step. I will add <u>72 and 84</u> to find the total number of students. I will divide by <u>4</u> to find how many students will ride on each bus.</p>	<p>So, <u>39</u> students will ride on each bus.</p>

1. Miranda has 180 beads for making jewelry. She buys 240 more beads. She wants to store the beads in a case with 6 sections. She wants to put the same number of beads in each section. How many beads should Miranda put in each section?

2. All 203 students at Polk School eat lunch at the same time. One day 19 students were absent. If 8 students sit at each table in the lunchroom, how many tables were used that day at lunch?

**It's a Riddle!**

**Solve each problem. Look for the answer in the riddle below and write the letter of the problem on the line. Not all letters will be used.**

<b>C</b>	<p>Maria takes 24 photos at the circus and 72 photos on her vacation. If each page in her scrapbook can hold 6 photos, how many pages can Maria fill?</p> <hr/>	<b>I</b>	<p>Carmen and Wayne sell 25 birdhouses at a craft fair. They share the money equally. If each birdhouse costs \$14, how much money will Carmen and Wayne each receive?</p> <hr/>
<b>R</b>	<p>José uses 3 flowers for each corsage he makes. He has orders for 18 corsages each from two different stores. How many flowers will he need?</p> <hr/>	<b>L</b>	<p>Mr. Davis sells sleeping bags. He has 30 red sleeping bags and 26 green sleeping bags to put on shelves. Each shelf can hold 8 sleeping bags. How many shelves can he fill?</p> <hr/>
<b>Y</b>	<p>Taren makes 62 chocolate chip cookies and 74 oatmeal cookies. If she places 8 cookies on a plate for the bake sale, how many plates will Taren need?</p> <hr/>	<b>T</b>	<p>Keisha bought 10 bags of apples. There are 15 apples in each bag. If Keisha repacks the apples into 5 bags, how many apples will be in each bag?</p> <hr/>
<b>N</b>	<p>Chan and his two sisters make and sell jewelry. They sell each piece of jewelry for \$9 and agree to share the money equally. If they sell 38 pieces of jewelry in all, how much money will each person receive?</p> <hr/>	<b>E</b>	<p>Linh orders 16 blueberry muffins and 24 cranberry muffins from a bakery. The bakery places 8 muffins in each package. How many packages will Linh have to pick up?</p> <hr/>

**Which city has no people?**