

CONTENTS

Introduction

Letter to Students	vi
Letter to Parents and Families	vii
What You'll See in <i>Measuring Up Foundations</i>	viii

Chapter 1 Numbers and Operations in Base Ten

1	Round and Estimate Numbers	1
2	Add and Subtract within 1,000	10
3	Know Multiplication Facts	20
4	Relate Multiplication and Division Facts	30
5	Know Division Facts	40

Chapter 2 Operations and Algebraic Thinking

6	Find Unknown Factors	50
7	Use Multiplication and Division Strategies	60



Chapter 2 (continued)

8	Multiply 1-Digit Whole Numbers by Multiples of 10	70
9	Solve One- and Two-Step Word Problems with All Four Operations	80

Chapter 3 Fractions and Time

10	Understand and Compare Fractions	90
11	Understand Equivalent Fractions	100
12	Tell and Write Time to the Nearest Minute	110
13	Solve Word Problems Using Time Intervals	120

Chapter 4 Measurement and Data

14	Measure Volume and Mass	130
15	Use Use Data in Dot Plots, Picture Graphs, and Bar Graphs	140
16	Summarize Data Using Table, Dot Plot, or Graph	150



Chapter 5 Geometry

17	Explore Categories of Shapes	160
18	Find Area Using Unit Squares	170
19	Find Area and Perimeter	180
20	Add to Find Total Area	190

SAMPLE

Lesson 5 Know Division Facts

Introduction

What Will I Learn?

- How do you know a division answer is odd or even?
- How do you know division facts?

If you shared 30 oranges equally among the 15 people on your soccer team, each person would get 2 oranges.

$$30 \div 15 = 2$$



Break Down the Skills

Multiplication facts can help you find the answer to division problems. The more you practice your division facts, the easier they will get.

- Think about $8 \div 4$. You know that 2 groups of 4 equal 8, so you also know that 8 divided by 4 equals 2.

$$4 \times 2 = 8 \text{ and } 8 \div 4 = 2$$

The image shows that 2 groups of 4 bikes equal 8 bikes, and that 8 bikes divided into groups of 4 equal 2 groups.



A division problem has a **dividend**, a **divisor**, and a **quotient**.

- The *dividend* is the number being divided.
- The *divisor* is the number being divided into another number.

- The *quotient* is the answer.

$$8 \div 4 = 2$$

↑
↑
↑
 dividend divisor quotient

Sometimes a quotient is **odd**.

- An *odd* number is one that cannot be paired, or grouped by 2s.
- 3 is an odd number.



Sometimes a quotient is **even**.

- An *even* number is one that can be paired, or grouped by 2s.
- 4 is an even number.



You can find even numbers by counting by 2s!



Consider the division problem $12 \div 3 = 4$. Complete the sentences below with the correct numbers.

_____ is the dividend.

_____ is the divisor.

_____ is the quotient.

Circle odd or even.

The quotient is odd/even.

Guided Instruction

Skip count by 5s:

5, 10, 15, _____, _____, _____

Skip count by 10s:

10, 20, 30, _____, _____, _____

Skip count by 100s:

100, 200, 300, _____, _____, _____

How can you divide 35 people into 7 equal groups?

$$35 \div 7 = \underline{\hspace{2cm}}$$



You can choose to divide a number into equal-sized groups, such as 7 or 5 in a group, or an equal number of groups, such as 7 or 5 groups.



How can you divide 35 people into 5 equal groups?

$$35 \div 5 = \underline{\hspace{2cm}}$$



Multiplication facts can help you solve division problems.

Circle the multiplication facts that are related to the division problem $36 \div 12 = 3$.

$$3 \times 6 = 18 \quad 3 \times 12 = 36 \quad 12 \times 3 = 36 \quad 12 \times 2 = 24$$

Circle the multiplication facts that are related to the division problem $24 \div 6 = 4$.

$$4 \times 8 = 32 \quad 6 \times 4 = 24 \quad 6 \times 5 = 30 \quad 4 \times 6 = 24$$

A multiplication table can also be helpful when solving division problems.



Carson has a bag of 32 marbles. He wants to share them equally among his 8 friends. How many marbles will each friend get?

$$32 \div 8 = ?$$

Use a related multiplication fact.

$$\underline{\hspace{2cm}} \times 8 = 32$$

Solve.

$$32 \div 8 = \underline{\hspace{2cm}}$$

Practice your division facts.

$$60 \div 6 = \underline{\hspace{2cm}}$$

$$64 \div 8 = \underline{\hspace{2cm}}$$

$$45 \div 9 = \underline{\hspace{2cm}}$$

$$48 \div 6 = \underline{\hspace{2cm}}$$



Is the number of shoes odd or even? Circle.



odd/even



odd/even

Determine whether the quotients are odd or even. Circle.

Look at the division problem $10 \div 5 = 2$.

The quotient is odd/even.

Look at the division problem $15 \div 5 = 3$.

The quotient is odd/even.

If you divide 18 by 6, will the answer be even or odd?

odd/even

If you divide 14 by 2, will the answer be even or odd?

odd/even

If you divide 20 by 5, will the answer be even or odd?

odd/even

An even number always ends in 0, 2, 4, 6, or 8.

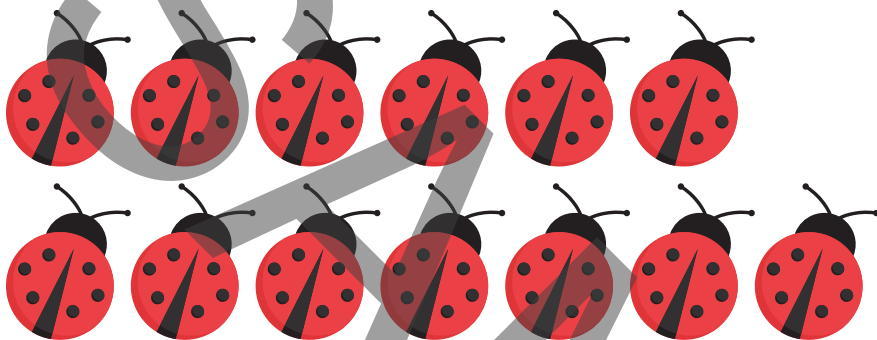


Independent Practice

Answer the questions that follow.

Practice 1

- 1 Rosario has 13 ladybug stickers. Is 13 even or odd? Circle.



odd/even

To determine whether a number is even, ask yourself, "Can I divide this number by 2?"



- 2 Which number is odd?

- A 11
- B 12
- C 14
- D 18

- 3 Which multiplication fact will best help you complete the division fact?

$$16 \div 4 = 4$$

- A $8 \times 2 = 16$
- B $4 \times 3 = 12$
- C $4 \times 4 = 16$
- D $2 \times 4 = 8$

- 4 Nyla has 33 crayons. She wants to share them equally with 3 friends. How many crayons will she give each friend?

A 3
B 9
C 11
D 13

Underline the important information in the problem. What numbers do you see?



- 5 Fill in the blank with the quotient.

$$45 \div 9 = \underline{\hspace{2cm}}$$

Practice 2

- 1 Fill in the blank with the quotient.

$$48 \div 8 = \underline{\hspace{2cm}}$$

- 2 If you divide 18 by 9, will the answer be even or odd? Circle.

odd/even

- 3 Fill in the blank with the quotient.

$$50 \div 10 = \underline{\hspace{2cm}}$$

- 4 Which multiplication fact will best help you complete the division fact?

$$35 \div 5 = 7$$

- A** $5 \times 7 = 35$
B $7 \times 4 = 28$
C $5 \times 6 = 30$
D $7 \times 6 = 42$

Which multiplication fact has the same numbers as the given division fact?



- 5 Gavin has 56 beads. He wants to put the same number of beads on 7 bracelets. How many beads will go on each bracelet?

- A** 6
B 7
C 8
D 9

Exit Ticket

There are 6 players on Maria's volleyball team. Maria brought 18 baby carrots and 36 crackers to share equally among her teammates.



How many more crackers than baby carrots will each player get? Write both division facts.

TEACHER GUIDE

Lesson 5 Know Division Facts

At-a-Glance

Learning Objectives	Review Skills
<ul style="list-style-type: none">• Explain why a division answer is odd or even.• Know division facts.	<ul style="list-style-type: none">• Skip count by 5s, 10s, and 100s.• Divide a large group into smaller groups.
Academic Vocabulary	Why Students May Struggle
dividend divisor quotient odd even	Students may have trouble relating division and multiplication.

WHAT WILL I LEARN?

ACTIVATING PRIOR KNOWLEDGE

- Remind students that they have used visual representations to divide before.
 - On the board, write the equation $15 \div 5 = 3$.
 - Show an array that has 5 rows of 3. Skip count as a class to determine that there are 15 objects total.
 - Circle each row and say, "15 divided into groups of 5 makes 3 equal groups."
- Draw 20 stars, or similar objects, on the board. Ask students how they would divide 20 stars into 2 equal groups.
 - Ask a volunteer to come to the board and circle 2 groups of 10 stars. Say, "20 divided into 2 equal groups puts 10 stars in each group."
 - Skip count by 10 to confirm that 2 groups of 10 equals 20.

EXPLICIT INSTRUCTION

- On the board, draw a table with two columns and multiple rows. Label the left column "Division Facts" and the right column "Multiplication Facts." Give each student a small manipulative to represent each equation.
 - In the left column, write $8 \div 4 = \underline{\quad}$. Ask students to divide 8 objects into 4 equal groups.
 - As a class, come to the conclusion that 8 divided by 4 equals 2. Fill in the blank.
 - Ask students how they could write a multiplication equation using the same numbers. Encourage them to use their manipulatives to show 4 groups of 2.
 - In the right column, write the multiplication equation $4 \times 2 = 8$.
 - In the next row, write the division equation $10 \div 2 = \underline{\quad}$.

Lesson 5 Know Division Facts

Introduction

What Will I Learn?

- How do you know a division answer is odd or even?
- How do you know division facts?

If you shared 30 oranges equally among the 15 people on your soccer team, each person would get 2 oranges.
 $30 \div 15 = 2$

Break Down the Skills

Multiplication facts can help you find the answer to division problems. The more you practice your division facts, the easier they will get.

- Think about $8 \div 4$. You know that 2 groups of 4 equal 8, so you also know that 8 divided by 4 equals 2.

$4 \times 2 = 8$ and $8 \div 4 = 2$

The image shows that 2 groups of 4 bikes equal 8 bikes, and that 8 bikes divided into groups of 4 equal 2 groups.

A division problem has a **dividend**, a **divisor**, and a **quotient**.

- The **dividend** is the number being divided.
- The **divisor** is the number being divided into another number.

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- Discuss with the class which multiplication fact could help you determine the missing number in the equation. ($5 \times 2 = 10$)
- Write 5 in the blank and point out that all the same numbers are used in the related multiplication and division facts.
- Repeat this activity until you feel confident that students are understanding the relationship between multiplication and division.

BREAK DOWN THE SKILLS

TEACH ACADEMIC VOCABULARY

- Write the equation $8 \div 4 = 2$ on the board.
 - Circle the number 8 and explain that this is the **dividend**, or the total number of objects that you are dividing. Point out the 8 bicycles shown in the image.
 - Move on to the 4 and explain that this is the **divisor**. Explain that you will be dividing 8 objects into equal groups of 4. Point out the 4 bicycles in each group.
 - Finally, circle the **quotient**. Remind students that this is the answer to the division problem. Show students that there are 2 equal groups of bicycles.
- Ask students whether they know the difference between an **odd** and **even** number.
 - Explain that an *odd* number is one that cannot be paired. An *even* number is one that can be paired. Use shoes as an example. State that if all the students in class are wearing 2 shoes, or a pair of shoes, there is an even number of shoes in the classroom.
 - Explain that if one of the students were to lose a shoe on the playground, there would then be an odd number of shoes in the classroom because one of the students would not have a full pair.
- Next, walk through the example with students, showing that 3 is odd and 4 is even.
- On the board, write a list of numbers 1 through 10.
 - Direct students' attention to the list of numbers on the board. Discuss whether they believe that 1 is even or odd. Show that 1 object is odd because it cannot be paired. Use a visual for support.
 - Move on to the number 2. Draw 2 objects and circle them. State that 2 is an even number because there is 1 pair. Continue this process until you get to 10. Draw a model for each number, circling groups of 2.
- Finally, ask students to complete the activity.

Lesson 5 Know Division Facts

Introduction

What Will I Learn?

- How do you know a division answer is odd or even?
- How do you know division facts?

If you shared 30 oranges equally among the 15 people on your soccer team, each person would get 2 oranges.
 $30 \div 15 = 2$

Break Down the Skills

Multiplication facts can help you find the answer to division problems. The more you practice your division facts, the easier they will get.

- Think about $8 \div 4$. You know that 2 groups of 4 equal 8, so you also know that 8 divided by 4 equals 2.
 $4 \times 2 = 8$ and $8 \div 4 = 2$

The image shows that 8 bicycles, and that 8 bicycles divided into groups of 4 equal 2 groups.

A division problem has a **dividend**, a **divisor**, and a **quotient**.

- The dividend is the number being divided.
- The divisor is the number being divided into another number.

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Lesson 5 • Know Division Facts

- The quotient is the answer:
 $8 \div 4 = 2$
dividend divisor quotient

Sometimes a quotient is **odd**.

- An odd number is one that cannot be paired, or grouped by 2s.
- 3 is an odd number.

Sometimes a quotient is **even**.

- An even number is one that can be paired, or grouped by 2s.
- 4 is an even number.

You can find even numbers by counting by 2s.

Consider the division problem $12 \div 3 = 4$. Complete the sentences below with the correct numbers.

_____ is the dividend.
_____ is the divisor.
_____ is the quotient.

Circle odd or even.

The quotient is odd/even.

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GUIDED INSTRUCTION

- Read and discuss all the tips in conjunction with the related activities.
- Introduce the first activity by reminding students that skip counting can be a quick and easy way to determine the product of two numbers, especially those with 2, 5, 10, or 100 as a factor.
- Next, direct students' attention to the array showing 35 people. Ask students to create 7 equal groups by drawing circles over the image. Ask students to determine how many people are in each group. Discuss that dividing 35 people into 7 groups is the same as saying $35 \div 7 = 5$.
- Then, ask students to divide the same 35 people into 5 equal groups. Clarify by explaining that they should be circling 7 people at a time. Ask, "How many groups did you make?" Discuss that dividing 35 people into 5 groups is the same as saying $35 \div 5 = 7$.

Chapter 1 • Numbers and Operations in Base Ten


Guided Instruction

Skip count by 5s:
5, 10, 15, 20, 25, 30

Skip count by 10s:
10, 20, 30, 40, 50, 60


Skip count by 100s:
100, 200, 300, 400, 500, 600

How can you divide 35 people into 7 equal groups?
 $35 \div 7 = 5$



You can choose to divide a number into equal-sized groups, such as 7 or 5 in a group, or an equal number of groups, such as 7 or 5 groups.

How can you divide 35 people into 5 equal groups?
 $35 \div 5 = 7$



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Common Errors

Make sure that students are reading the directions closely. Some students may think that the same question is repeated twice. Ask students to circle "7 equal groups" and "equal groups of 7."

- Remind students that multiplication facts can help you complete division facts, and vice versa.
- Reiterate that related multiplication and division facts use the same numbers.
- Then, explain to students that the more they practice, the more familiar they will become with division facts.
 - Allow students time to complete the rest of the activities on the page.

Lesson 5 • Know Division Facts

Multiplication facts can help you solve division problems. Circle the multiplication facts that are related to the division problem $36 \div 12 = 3$.

$3 \times 6 = 18$ $12 \times 12 = 36$ $12 \times 3 = 36$ $12 \times 2 = 24$

Circle the multiplication facts that are related to the division problem $24 \div 6 = 4$.

$4 \times 8 = 32$ $6 \times 4 = 24$ $6 \times 5 = 30$ $4 \times 6 = 24$

Carson has a bag of 32 marbles. He wants to share them equally among his 8 friends. How many marbles will each friend get?

$32 \div 8 = ?$

Use a related multiplication fact.

$\underline{\quad} \times 8 = 32$

Solve:

$32 \div 8 = \underline{4}$

Practice your division facts.


$60 \div 6 = \underline{10}$

$64 \div 8 = \underline{8}$

$45 \div 9 = \underline{5}$

$48 \div 6 = \underline{8}$

A multiplication table can also be helpful when solving division problems.



Level C Copying is prohibited 4

Common Errors

If students are struggling to make the connection between multiplication and division, allow them to reference a multiplication table as they solve the problems. Explain how the multiplication table also provides answers to division facts.

- Say, "Quotients can be either odd or even."
- Remind students of the "shoe discussion" that you had earlier, and that even numbers can be *paired*, or grouped in 2s.
- Allow students time to complete the activities on the rest of the page.
- After students have completed the activities, discuss as a class how students determined whether a quotient was even or odd and whether they noticed any patterns.

Chapter 4 • Numbers and Operations in Base Ten

Is the number of shoes odd or even? Circle.

odd

even

Determine whether the quotients are odd or even. Circle.

Look at the division problem $10 \div 5 = 2$.
The quotient is even.

Look at the division problem $15 \div 3 = 5$.
The quotient is odd.

If you divide 18 by 6, will the answer be even or odd?
even

If you divide 14 by 2, will the answer be even or odd?
even

If you divide 20 by 5, will the answer be even or odd?
even

An even number always ends in 0, 2, 4, 6, or 8.

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Common Errors

Some students might not understand how circling pairs of objects can help determine if there is an odd or even number of objects. Remind students that an even number is one that can be paired or grouped by twos. Give pairs of students a pile of blocks. Explain that, if they can each have the same number of blocks, there is an even number. Tell them to each take one block at a time and see if they use all the blocks. Point out that, when they each take a block, it is similar to circling two blocks at a time on paper.

INDEPENDENT PRACTICE

Practice 1 Questions

- Read the questions aloud and have students select or provide the answers. Review the answers.

Lesson 5 • Know Division Facts

Independent Practice

Answer the questions that follow.

Practice 1

1 Rosario has 13 ladybug stickers. Is 13 even or odd? Circle.

odd

To determine whether a number is even, ask yourself, "Can I divide this number by 2?"

2 Which number is odd?
A 11
B 12
C 14
D 18

3 Which multiplication fact will best help you complete the division fact?
 $16 \div 4 = 4$
A $8 \times 2 = 16$
B $4 \times 3 = 12$
C $4 \times 4 = 16$
D $2 \times 4 = 8$

4 Level C Copying is prohibited.

Chapter 4 • Numbers and Operations in Base Ten

4 Nya has 33 crayons. She wants to share them equally with 3 friends. How many crayons will each friend get?

Underline the important information in the problem. What numbers do you need?

A 3
B 9
C 11
D 13

5 Fill in the blank with the quotient.
 $45 \div 9 = \underline{5}$

Practice 2

1 Fill in the blank with the quotient.
 $48 \div 8 = \underline{6}$

2 If you divide 18 by 9, will the answer be even or odd? Circle.
even

3 Fill in the blank with the quotient.
 $50 \div 10 = \underline{5}$

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Practice 2 Questions

- Ask students to read the questions and select or provide the answers independently. Review the answers.

Chapter 1 • Numbers and Operations in Base Ten

4. Nyla has 33 crayons. She wants to share them equally with 3 friends. How many crayons will she give each friend?

A 3
B 9
C 11
D 13

5. Fill in the blank with the quotient.
 $45 \div 9 = \underline{\quad 5 \quad}$

Practice 2

1. Fill in the blank with the quotient.
 $48 \div 8 = \underline{\quad 6 \quad}$

2. If you divide 18 by 9, will the answer be even or odd? Circle.

odd even

3. Fill in the blank with the quotient.
 $50 \div 10 = \underline{\quad 5 \quad}$

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Lesson 5 • Know Division Facts

4. Which multiplication fact will best help you complete the division fact?
 $35 \div 5 = 7$

A $5 \times 7 = 35$
B $7 \times 4 = 28$
C $5 \times 6 = 30$
D $7 \times 6 = 42$

5. Gavin has 56 beads. He wants to put the same number of beads on 7 bracelets. How many beads will go on each bracelet?

A 6
B 7
C 8
D 9

Level C

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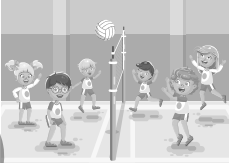
EXIT TICKET

- Have students fill in the Exit Ticket at the end of class. Read the story problem together before students start working on the solution.

Chapter 1 • Numbers and Operations in Base Ten

Exit Ticket

There are 6 players on Maria's volleyball team. Maria brought 18 baby carrots and 36 crackers to share equally among her teammates.



How many more crackers than baby carrots will each player get? Write both division facts.
 $18 \div 6 = 3$ and $36 \div 6 = 6$
 $6 - 3 = 3$
each player will get 3 more crackers than baby carrots.

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ADDITIONAL SUPPORT

SUPPORT FOR STRUGGLING LEARNERS

- Real-world, physical examples will help struggling learners grasp the idea of division. Ask students to separate themselves into equal groups based on the number of students in the classroom. For example, if your class has 24 students, on the board, write the expression $24 \div 4$. Have students divide themselves into equal groups of 4 students and determine the quotient.
- Provide a multiplication table for students to reference as they work through problems. This will help them better understand the relationship between multiplication and division.
- Use Copy Master 2 at the end of these teacher notes to help struggling learners practice their division facts as well as their understanding of even and odd numbers. Make a copy of the master and write six division facts in the boxes on the left. By providing different starting problems, the activity can be completed over and over and be a different activity each time.

SUPPORT FOR ENGLISH LANGUAGE LEARNERS

- This lesson includes a lot of vocabulary, which may be overwhelming for English learners. Consider having students create their own dictionaries. Provide definitions and examples for students and have them write the definitions in their own journals.
- The activities on the first Guided Instruction page may be difficult for English learners, as they try to differentiate between “equal groups of 7” and “7 equal groups.” Before asking students to complete the activity on their own, work through a similar example together as a class. Be sure to emphasize the difference in the directions as you do so.

EXTENSION ACTIVITIES

- Students will become more fluent the more they practice. Use Copy Master 1 at the end of these teacher notes for additional practice. Direct students to complete all of the problems, all the odd problems, or all the even problems.
- Provide students with division fact flashcards to practice with a partner.

Name _____

Date _____

Determine the quotients.

1. $60 \div 10 = \underline{\quad}$

13. $48 \div 8 = \underline{\quad}$

2. $44 \div 4 = \underline{\quad}$

14. $35 \div 7 = \underline{\quad}$

3. $24 \div 6 = \underline{\quad}$

15. $45 \div 5 = \underline{\quad}$

4. $42 \div 6 = \underline{\quad}$

16. $66 \div 11 = \underline{\quad}$

5. $24 \div 8 = \underline{\quad}$

17. $36 \div 4 = \underline{\quad}$

6. $30 \div 6 = \underline{\quad}$

18. $40 \div 5 = \underline{\quad}$

7. $15 \div 3 = \underline{\quad}$

19. $80 \div 10 = \underline{\quad}$

8. $88 \div 11 = \underline{\quad}$

20. $44 \div 11 = \underline{\quad}$

9. $54 \div 6 = \underline{\quad}$

21. $81 \div 9 = \underline{\quad}$

10. $64 \div 8 = \underline{\quad}$

22. $28 \div 4 = \underline{\quad}$

11. $63 \div 9 = \underline{\quad}$

23. $40 \div 10 = \underline{\quad}$

12. $49 \div 7 = \underline{\quad}$

24. $27 \div 3 = \underline{\quad}$

Name _____

Date _____

Determine the quotient. Is it even or odd?

	Quotient	Even/Odd
$8 \div 4$	2	Even