Using a Session

Teacher's Guide

i-Ready Classroom Mathematics lessons consist of three types of sessions: Explore, Develop, and Refine. The following is a walkthrough of the planning and support features within the Teacher's Guide for a Develop session. You will find many of the same features in the Explore and Refine sessions.

Lesson Overview provides information for use in planning whole class instruction, small group differentiation, and independent learning opportunities.

CCSS Focus sets learning expectations for students' conceptual understanding and how they demonstrate that understanding.

Content Objectives identify the mathematical learning goals for the lesson, while **Language Objectives** identify how students show their understanding of those goals.

Prerequisite Skills are opportunities to monitor understanding and identify students' learning needs.

Learning Progression sets context for the mathematics of the lesson, providing information on how the content fits across and within grade levels—what students previously learned, what they are learning now, and what they will be learning next.

Lesson Overview

LESSON 18

Fractions as Division

CCSS Focus

Domain
Number and Operations—Fractions

Cluster
B. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Standard
5.NF.B.3 Interpret a fraction as division of the numerator by the denominator $\left(\frac{a}{b} = a \div b\right)$. Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $\frac{3}{4}$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

Standards for Mathematical Practice (SMP)
SMPs 1, 2, 3, 4, 5, and 6 are integrated in every lesson through the *Try-Discuss-Connect* routine.*

In addition, this lesson particularly emphasizes the following SMPs:

2 Reason abstractly and quantitatively.
5 Use appropriate tools strategically.
7 Look for and make use of structure.

*See page 305m to see how every lesson includes these SMPs.

Lesson Objectives

Content Objectives
- Use visual fraction models to represent a fraction as division.
- Solve word problems involving division of whole numbers in which the quotient is a fraction or mixed number.
- Understand a fraction as a way to represent division where the numerator is divided by the denominator.

Language Objectives
- Make a visual fraction model to represent a fraction as a division of two whole numbers and explain the relationship of the model to the fraction.
- Draw a visual model and write an equation to represent word problems involving a quotient of whole numbers where the quotient is a fraction.

Prerequisite Skills
- Understand division as equal groups or sharing.
- Understand that multiplication and division are inverse operations.
- Divide whole numbers.
- Multiply a fraction by a whole number.

Lesson Vocabulary
There is no new vocabulary. Review the following key terms.
- **denominator** the number below the line in a fraction that tells the number of equal parts in the whole.
- **fraction** a number that names equal parts of a whole. A fraction names a point on the number line and can also represent the division of two numbers.
- **numerator** the number above the line in a fraction that tells the number of equal parts that are being described.
- **quotient** the result of division.
- **remainder** the amount left over when one number does not divide another number a whole number of times.

Learning Progression
In previous grades students have understood the meaning of division as equal groups or equal shares. They have interpreted fractions as equal parts of a whole or equal parts of a group.

In this lesson students extend their understanding of both division and fractions to see that when a whole number is divided by another whole number the quotient may be a fraction or a mixed number, e.g., $2 \div 5 = \frac{2}{5}$ and $23 \div 7 = \frac{23}{7}$. From exploring problems like this they recognize that a fraction can be interpreted as representing a division expression, one where the numerator is divided by the denominator. They further connect this idea to the inverse relationship of multiplication and division, e.g., $2 \div 5 = \frac{2}{5}$ and $5 \times \frac{2}{5} = 2$.

In later lessons students will learn to divide whole numbers by unit fractions and divide unit fractions by whole numbers. In Grade 6 students will apply and extend their understanding of division with fractions to divide a whole number by a fraction and to divide a fraction by a fraction.

Lesson Pacing Guide

Whole Class Instruction

SESSION 1 **Explore** *45–60 min*	**Fractions as Division** • Start *5 min* • Try It *10 min* • Discuss It *10 min* • Connect It *15 min* • Close: Exit Ticket *5 min*	**Additional Practice** Lesson pages 377–378
SESSION 2 **Develop** *45–60 min*	**Fractions as Division** • Start *5 min* • Try It *10 min* • Discuss It *10 min* • Picture It & Model It *5 min* • Connect It *10 min* • Close: Exit Ticket *5 min*	**Additional Practice** Lesson pages 383–384 **Fluency** Fractions as Division
SESSION 3 **Refine** *45–60 min*	**Fractions as Division** • Start *5 min* • Example & Problems 1–3 *15 min* • Practice & Small Group Differentiation *20 min* • Close: Exit Ticket *5 min*	**Lesson Quiz** or **Digital Comprehension Check**

Lesson Materials

Lesson *(Required)*	*Activity Sheet:* Number Lines
Activities	*Per student:* base-ten blocks (1 tens rods, 2 ones units), scissors *Activity Sheets:* Fraction Bars, Digit Cards, 1-Inch Grid Paper
Math Toolkit	fraction circles, fraction tiles, fraction bars, tenths grids, number lines, index cards
Digital Math Tools	Fraction Models, Number Line

Teacher Toolbox

Small Group Differentiation

PREPARE

Ready Prerequisite Lesson

Grade 4
• Lesson 23 Understand Fraction Multiplication

RETEACH

Tools for Instruction

Grade 4
• Lesson 23 Understand Fraction Multiplication

Grade 5
• Lesson 18 Interpreting Fractions as Division

REINFORCE

Math Center Activities

Grade 5
• Lesson 18 Fractions as Quotients
• Lesson 18 Relate Situations to Fractional Quotients

EXTEND

Enrichment Activity

Grade 5
• Lesson 18 Pizza Party

i-Ready

Independent Learning

PERSONALIZE

i-Ready Lesson*

Grade 5
• Fractions as Division

*We continually update the Interactive Tutorials. Check the Teacher Toolbox for the most up-to-date offerings for this lesson.

Whole Class Instruction session-by-session pacing is used to plan daily instruction and practice.

Small Group Differentiation resources support learning for all students with *Tools for Instruction* for targeted skills instruction, differentiated *Math Center Activities* to reinforce on-level skills, and *Enrichment Activities* that extend understanding.

Additional Practice and **Fluency & Skills Practice** are for use as in-class small group work, after-class work, or at-home learning.

Optional Add-On: **Independent Learning** resources provide students with opportunities to strengthen grade-level skills by working on their personalized path with *i-Ready* Online Instruction or to build fluency skills with interactive Learning Games.

The **Lesson Quiz** or **Digital Comprehension Check** assesses students' progress toward mastery of lesson content and is a way to identify where reteaching is needed.

Purpose provides a roadmap of what students will be learning and doing across the session.

Start establishes a clear and accessible entry point for each session, engaging students mathematically with prerequisite content. It frequently is an opportunity to have students manipulate concrete objects to model a mathematics skill or concept.

Develop Language provides language support for all students and is especially useful in helping EL students make sense of the problem.

Support Partner Discussion provides teachers with prompts to help students engage in meaningful peer discourse.

Make Sense of the Problem uses a language routine to help students understand the problem. See the Language Routines section on the Teacher Toolbox (under the Program Implementation tab) for suggestions on how to integrate language routines, teacher moves, and conversation tips during instruction.

LESSON 18

SESSION 2 Develop

Purpose In this session students solve a problem that requires finding the quotient $5 \div 3$ and representing it as both a fraction and a mixed number. Students model the division either on paper or with manipulatives. The purpose of this problem is to develop strategies for finding quotients that are fractions or mixed numbers.

Start

Connect to Prior Knowledge

Materials For each student: Activity Sheet *Number Lines*

Why Support students' facility with writing fractions greater than 1 as mixed numbers.

How Have students label a number line to show fourths, locate the fractions $\frac{7}{4}$ and $\frac{14}{4}$ on the number line, and then write the equivalent mixed numbers.

Locate each fraction on a number line labeled in fourths. Then write the fraction as a mixed number.

$\frac{7}{4}$ = ... $\frac{14}{4}$ = ...

Solutions
Check students' number lines.
$\frac{7}{4} = 1\frac{3}{4}$
$\frac{14}{4} = 3\frac{2}{4}$, or $3\frac{1}{2}$

Develop Language

Why Review the terms *dividend*, *divisor*, and *quotient* to facilitate student discussions.

How Write the terms on the board and explain that they are used to identify the parts of a division equation. Write a division equation on the board and have students work to label each of the numbers with the term *dividend, divisor,* or *quotient*. Discuss and correct any misconceptions. Have students revise their work as needed, and copy the labeled equation onto a class chart for students to use as a reference.

TRY IT

Make Sense of the Problem

To support students in making sense of the problem, help them recognize that 3 students are decorating 5 hallways.

Ask *The problem asks you to find how much each student will decorate. What does* how much *mean in this situation? What will be the unit for your answer?*

LESSON 18 SESSION 2 ● ● ○

Develop Fractions as Division

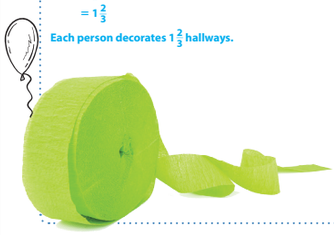
Read and try to solve the problem below.

Jared, Monica, and Heather have 5 hallways to decorate for the student council. If they share the work equally, how much will each student decorate?

TRY IT

Possible student work:

Sample A



Each student decorates $\frac{5}{3}$ of a hallway.

Sample B

$5 \div 3 = \frac{5}{3}$
$= 1\frac{2}{3}$

Each person decorates $1\frac{2}{3}$ hallways.

Math Toolkit
- fraction circles or tiles
- fraction bars
- fraction models
- tenths grids
- number lines
- index cards

DISCUSS IT

Ask your partner: Do you agree with me? Why or why not?

Tell your partner: I disagree with this part because . . .

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DISCUSS IT

Support Partner Discussion

Encourage students to name the model they used as they discuss their solutions.

Support as needed with questions such as:

- *How would you describe your model?*
- *What was it about this problem that made you think of using that model?*

Common Misconception Look for students who accurately model the problem but have difficulty identifying what constitutes one equal share from all the equal parts represented. As students present solutions, ask them to identify Jared's share in the model.

Select and Sequence Student Solutions

One possible order for whole class discussion:

- concrete models showing 3 groups of 5 thirds
- drawings to represent the problem
- number lines marked in thirds
- equations showing $5 \div 3$ can be represented by $\frac{5}{3}$

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Common Misconception identifies misconceptions that lead to errors in understanding, which can then be addressed in whole class discussion as students are prompted to explain their reasoning.

Select and Sequence Student Solutions gives a range of possible strategies—from concrete to representational to abstract—for use in monitoring student work and facilitating discourse. This information can be used to make decisions about which models and strategies to share and discuss as a class.

Support Whole Class Discussion

Compare and connect the different representations and have students identify how they are related.

Ask *Where does your model show the number of hallways? The part of the hallways Jared decorates? Monica decorates? Heather decorates?*

Listen for Students should recognize that accurate representations show 5 wholes divided into thirds, with each student's share identified. Responses may include each student's share is equivalent to $\frac{5}{3}$.

PICTURE IT & MODEL IT

If no student presented these models, connect them to the student models by pointing out the ways they each represent:

- the 5 wholes
- the number of equal parts
- the number of parts decorated by each student

Ask *What is the total number of equal parts shown in the fraction model? On the number line? Is it the same or different? Why?*

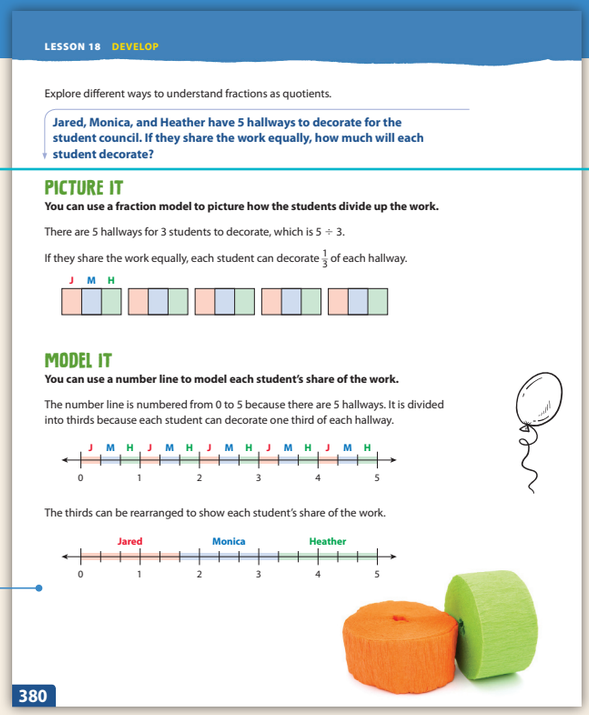
Listen for 15 is the total number of equal parts shown in both the fraction model and on the number line. It is the same number because each model shows 5 wholes divided into thirds, so there are 5 × 3 thirds, or 15 thirds in all.

For the fraction model, prompt students to identify how color is used to help represent the problem.

- *Why are three different colors used to shade the thirds in each whole?*

For the number line model, prompt students to recognize that the same information is shown on both number lines.

- *How many thirds are part of Jared's share in the top number line? The bottom number line?*
- *How is the first number line similar to the fraction model? How is it different?*
- *Think of each whole on the number line as representing 1 hallway. How does each way of shading the number line show a different way the students can divide up the work?*



LESSON 18 DEVELOP

Explore different ways to understand fractions as quotients.

Jared, Monica, and Heather have 5 hallways to decorate for the student council. If they share the work equally, how much will each student decorate?

PICTURE IT

You can use a fraction model to picture how the students divide up the work.

There are 5 hallways for 3 students to decorate, which is 5 ÷ 3.

If they share the work equally, each student can decorate $\frac{1}{3}$ of each hallway.

J M H

MODEL IT

You can use a number line to model each student's share of the work.

The number line is numbered from 0 to 5 because there are 5 hallways. It is divided into thirds because each student can decorate one third of each hallway.

J M H J M H J M H J M H J M H

0 1 2 3 4 5

The thirds can be rearranged to show each student's share of the work.

Jared Monica Heather

0 1 2 3 4 5

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Deepen Understanding

Remainders

SMP 2 Reason abstractly and quantitatively.

When discussing the number line model, have students use a mixed number to identify what is shown as each student's share of the work. [$1\frac{2}{3}$ hallways]

Ask *If the 3 students were sharing 5 paintbrushes instead of 5 hallways, would it make sense for them to each get $1\frac{2}{3}$ paintbrushes? How many paintbrushes would each student get? How many paintbrushes would be left over?*

Listen for $\frac{2}{3}$ of a paintbrush does not make sense. Each student would get 1 paintbrush with 2 brushes left over.

Prompt students to consider how in the past when they have divided whole numbers that did not divide evenly, they wrote the part left over as a remainder. Ask them how 5 ÷ 3 would be written using this method. [1 R 2]

Discuss division situations where they would want to show a quotient as a mixed number, and situations where they would want to show it as a whole number and a remainder.

Ask/*Listen for* are mathematical discourse questions followed by expected student responses that support and facilitate whole class discussion.

As students share their thinking, the discourse questions can be used to make connections between student approaches and different models and representations, prompt justifications and critiques of approaches and solutions, and check conceptual understanding.

SMPs are infused throughout the instructional model.

Deepen Understanding is a consistent opportunity to build conceptual understanding of a key lesson concept by extending mathematical discourse. The content connects a particular aspect of lesson learning to an SMP, showing how it looks in the classroom.

Monitor and Confirm is a way to ensure that students have made sense of mathematical learning goals.

Support Whole Class Discussion provides a series of related discourse questions that illuminate the mathematical ideas of the lesson, prompting students to make connections and use that understanding to solve problems leading to abstract reasoning. These questions help students learn how to articulate a generalization of the mathematical concept.

Hands-On Activities occur consistently at strategic points in the lesson after teachers have acquired understanding of students' learning through observation and their work on questions in the Student Worktext. The activities support students who are unsure of the concept and are an opportunity for small group reteaching while other students work independently. Use of concrete objects lets students access understanding in a different way.

LESSON 18
SESSION 2 **Develop**

CONNECT IT

- Remind students that one thing that is alike about all the representations is they show whole-number division that results in a quotient that is a fraction.
- Explain that on this page they will look at two different ways to think about the division and two different ways to show the quotient.

Monitor and Confirm

1 – 3 Check for understanding that:

- there are 15 thirds in all
- 15 thirds ÷ 3 = 5 thirds
- the quotient can be written as the fraction $\frac{5}{3}$
- as with whole numbers, you can write related multiplication and division equations

Support Whole Class Discussion

4 – 5 Have students think about modeling the way of dividing up the work described in problem 4. Guide them to connect writing the quotient in remainder form and as a mixed number.

Ask *How would you change the fraction model in* Picture It *to show this way of dividing up the work? What would a number line model of this way look like?*

Listen for In *Picture It*, each of the first three rectangles would be fully shaded in a single color, pink, blue, and green. On a number line, you could shade from 0 to 1 in pink, from 1 to 2 in blue, and from 2 to 3 in green. For the other two sections, shade $\frac{1}{3}$ of each section pink, $\frac{1}{3}$ blue, and $\frac{1}{3}$ green.

Ask *Does the mixed number or the remainder form better represent the solution?*

Listen for The mixed number gives an exact amount each person decorates. The remainder form indicates that each decorate 1 full hallway and then some of the remaining 2 hallways.

6 Look for the idea that the bar in a fraction can be interpreted as meaning *divided by*—the numerator is divided by the denominator—just as the division symbol in an expression does.

7 REFLECT

Have all students focus on the strategies used to solve this problem. If time allows, have students share their preferences with a partner.

CONNECT IT

Now you will use the problem from the previous page to help you understand fractions as quotients.

1 How many thirds of a hallway are there to decorate in 5 hallways? 15 thirds

2 How many thirds of a hallway will each student decorate? 5 thirds

Write this as a fraction. $\frac{5}{3}$ of a hallway

3 Write a division equation that shows the quotient as a fraction. $5 \div 3 = \frac{5}{3}$

Write a multiplication equation to check this equation. $3 \times \frac{5}{3} = 5$

4 How many whole hallways can each student decorate? 1

How many hallways remain after those are done? 2

How much of the 2 remaining hallways will each student decorate? $\frac{2}{3}$

Write a mixed number to show how many hallways each student will decorate.

$1\frac{2}{3}$ hallways

5 Calculate using remainder notation: 5 ÷ 3 = 1 R 2

Compare this answer to the mixed number. How are they alike?

The whole number is the same as the quotient without the remainder. The numerator is the same as the remainder.

6 How does the bar in a fraction represent division?

The bar means that the number in the numerator is divided by the number in the denominator.

7 REFLECT

Look back at your **Try It**, strategies by classmates, and **Picture It** and **Model It**. Which models or strategies do you like best for finding fraction quotients? Explain.

Students may respond that they like using fraction models or number lines to visualize dividing an amount into equal shares, or that they like representing a problem as a division equation that shows the quotient as a fraction.

Hands-On Activity

Connect fractions to equivalent division expressions.

If . . . *students are unsure about how to interpret a fraction as division,*

Then . . . *use this activity to rewrite fractions as equivalent division expressions.*

Materials For each student: base-ten blocks (1 tens rod, 2 ones units), Activity Sheet *Digit Cards* (3, 4, 5)

- Distribute materials to students. Have students use the digit cards and base-ten blocks to "build" the fraction used to solve the *Try It* problem, $\frac{5}{3}$, using the rod as the fraction bar and placing a digit card for *5* above the rod and a digit card for *3* below it.
- Ask students to alter the fraction they built to show the division expression used to represent the problem, *5 ÷ 3*, moving the digit cards and using the ones units along with the rod to make a division symbol (÷). Discuss where students placed the numerator and denominator to make the expression.
- Repeat activity, using the situation from the Explore *Try It:* 4 ounces of paint shared equally by 5 students. This time, have students first show the division expression that models the problem and then turn it into the fraction quotient.

APPLY IT

For all problems, encourage students to draw some kind of model to support their thinking. Allow some leeway in precision; dividing wholes and number lines into equal parts accurately can be very difficult.

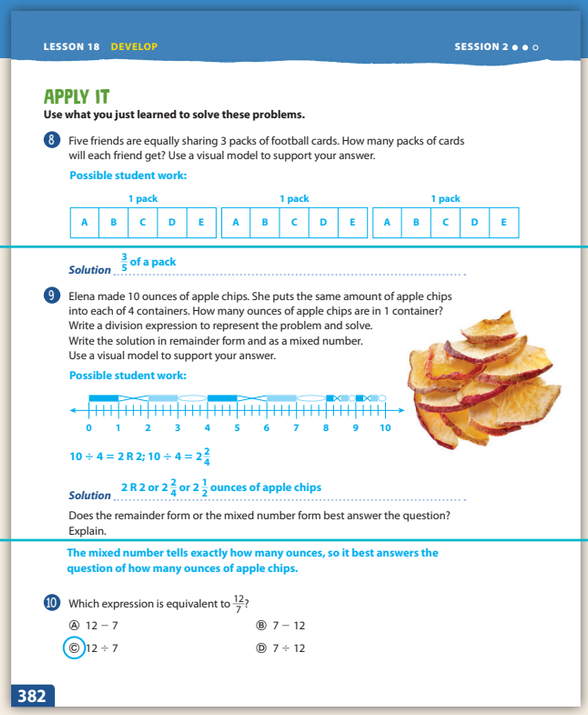
8 $\frac{3}{5}$ of a pack; Students may use a model to see that there are 15 fifths in 3 packs, so each friend gets 3 of the fifths. See possible model on the Student Worktext page. Students may also show a number line divided into fifths marked to show 5 shares of 3 fifths each.

9 $10 \div 4 = 2$ R 2; $10 \div 4 = 2\frac{2}{4}$; Each container has $2\frac{2}{4}$, or $2\frac{1}{2}$, ounces of apple chips. See possible visual model on the Student Worktext page. Students should see that the mixed number best answers the question because it gives an exact amount.

Close: Exit Ticket

10 **C**; The expression $12 \div 7$ shows the numerator, 12, divided by the denominator, 7.

Error Alert **If** students choose A, B, or D, **then** remind students that the bar in a fraction can mean the numerator is divided by the denominator. Have them read the fraction $\frac{12}{7}$, inserting the words *divided by* for the fraction bar.



LESSON 18 DEVELOP SESSION 2

APPLY IT

Use what you just learned to solve these problems.

8 Five friends are equally sharing 3 packs of football cards. How many packs of cards will each friend get? Use a visual model to support your answer.

Possible student work:

1 pack					1 pack					1 pack				
A	B	C	D	E	A	B	C	D	E	A	B	C	D	E

Solution $\frac{3}{5}$ of a pack

9 Elena made 10 ounces of apple chips. She puts the same amount of apple chips into each of 4 containers. How many ounces of apple chips are in 1 container?
Write a division expression to represent the problem and solve.
Write the solution in remainder form and as a mixed number.
Use a visual model to support your answer.

Possible student work:

0 1 2 3 4 5 6 7 8 9 10

$10 \div 4 = 2$ R 2; $10 \div 4 = 2\frac{2}{4}$

Solution 2 R 2 or $2\frac{2}{4}$ or $2\frac{1}{2}$ ounces of apple chips

Does the remainder form or the mixed number form best answer the question? Explain.

The mixed number tells exactly how many ounces, so it best answers the question of how many ounces of apple chips.

10 Which expression is equivalent to $\frac{12}{7}$?

Ⓐ $12 - 7$ Ⓑ $7 - 12$
Ⓒ $12 \div 7$ Ⓓ $7 \div 12$

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Apply It solutions at point of use give a correct response with explanations that include multiple approaches to solving the problem.

Close: Exit Ticket is a quick formative assessment of each day's learning and serves as an indicator of students' progress toward mastery or partial mastery of the learning goal of the session.

Error Alert gives insight into misconceptions that can lead to errors in calculation and provides on-the-spot remediation.

Additional Practice can be used as in-class small group work, after-class work, or at-home learning.

Solutions are labeled as *Basic*, *Medium*, and *Challenge* to support independent practice that can be differentiated as needed.

Fluency & Skills Practice provides ongoing opportunities for students to accurately, flexibly, and efficiently practice mathematical procedures and operations. This can be used as in-class small group work, after-class work, or at-home learning. Student pages are available on the Teacher Toolbox.

LESSON 18

SESSION 2 Additional Practice

Solutions

1. Number Line A; This number line shows 4 wholes divided into sixths so it can be used to solve $4 \div 6$.
   Basic

2. The model would change to show 5 equal parts in each rectangle; the answer would change to $\frac{1}{5} \times 4$, or $\frac{4}{5}$ of a package.
   Medium

Name: _____ LESSON 18 SESSION 2

Practice Fractions as Division

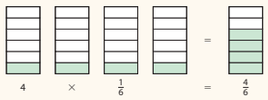
Study the Example showing whole-number division with a fraction quotient. Then solve problems 1–5.

EXAMPLE

There are 4 packages of printer paper to be divided equally among 6 classrooms. How much paper will each classroom get?

There are 4 packages for 6 classrooms to share, which is $4 \div 6$.

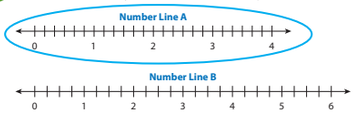
If you divide each package into sixths, each classroom would get one sixth of each package. So, $\frac{1}{6}$ of each package from 4 packages is the same as $\frac{4}{6}$ of a package.



$4 \div 6 = \frac{4}{6}$

Each classroom gets $\frac{4}{6}$ of a package.

1. Circle the number line you would use to solve the problem in the Example.



2. Look at the Example. Suppose only 5 classrooms share 4 packages. How would the model in the Example change? How would the answer change?
   Each rectangle would be divided into 5 equal sections instead of 6; the answer would change to $\frac{4}{5}$ of a package.

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Fluency & Skills Practice Teacher Toolbox

Assign *Fractions as Division*

In this activity students solve real-world division problems in which the quotient is a fraction or mixed number. Students may encounter similar situations in everyday life. For example, students may need to divide 5 cubic meters of peat moss evenly among 4 garden plots. Or, they may need to determine how many 2-cup servings of milk are in 25 cups of milk.


Fluency and Skills Practice

Fractions as Division

Name: _____

Solve each problem.

1. Roger has 4 gallons of orange juice. He puts the same amount of juice into each of 5 pitchers. How many gallons of orange juice are in 1 pitcher?
2. Maria has 8 cubic feet of potting soil and 3 flower pots. She wants to put the same amount of soil in each pot. How many cubic feet of soil will she put in each flower pot?
3. Greg made 27 ounces of potato salad to serve to 10 guests at a picnic. If each serving is the same size, how much potato salad will each guest receive?
4. Chanda spends 15 minutes doing 4 math problems. She spends the same amount of time on each problem. How many minutes does she spend on each problem?
5. Taylor has 5 yards of gold ribbon to decorate 8 costumes for the school play. She plans to use the same amount of ribbon for each costume. How many yards of ribbon will she use for each costume?
6. DeShawn is using 7 yards of wire fencing to make a play area for his puppy. He wants to cut the fencing into 6 pieces of equal length. How long will each piece of fencing be?
7. What is a division word problem that can be represented by $\frac{4}{7}$?

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383 **Lesson 18** Fractions as Division ©Curriculum Associates, LLC Copying is not permitted.

3 $\frac{7}{3}$, or $2\frac{1}{3}$ cans; Students may use fraction models or number lines divided into thirds, or the expression $7 \div 3$, to show how much food the dogs will get each day. Students should explain that the mixed number better expresses the amount of food per day because it gives an exact amount. The remainder just indicates that more than 2 cans will be used.
Medium

4 No; See possible explanation on the student page.
Challenge

5 Less than 1 cup; Students may use fraction models divided into sevenths, the expression $48 \div 7$, or some other method to find each person will get $\frac{48}{7}$, or $6\frac{6}{7}$ ounces. That amount is less than 8 ounces.
Medium

3 Trish is taking care of the Han family's dogs. The Hans leave 7 cans of dog food for the 3 days they will be away. How much food will the dogs get each day if Trish feeds them an equal amount each day? Show your work. Write the answer in remainder form and as a mixed number.

Students might use number lines, equations, or some other method to show the quotient of $7 \div 3$.

Solution **2 R 1 cans; $\frac{7}{3}$, or $2\frac{1}{3}$ cans**

Which best answers the question, the remainder form or the mixed number? Explain.

Possible answer: The mixed number, because it tells exactly how many cans to use each day. The remainder form shows to use more than 2, but not an exact amount.

4 Raul plans to run 30 miles this week. He wants to run the same number of miles each day of the week. He says he will run $\frac{7}{30}$ mile each day. Is he correct? Explain.

No; Possible explanation: Raul divided the number of days by the number of miles, $7 \div 30$. He needed to divide the number of miles by the number of days, $30 \div 7$. Raul will run $\frac{30}{7}$, or $4\frac{2}{7}$, miles a day.

5 Gus makes 48 fluid ounces of spiced cider. If he serves an equal amount to each of 7 people, will each person get more than 1 cup of cider or less than 1 cup? (1 cup = 8 fluid ounces) Show your work.

Students might use fraction models, equations, or some other method to show that $48 \div 7 = \frac{48}{7}$ or $6\frac{6}{7}$. $6\frac{6}{7}$ ounces < 8 ounces

Solution **less than 1 cup**

ELL English Language Learners: Differentiated Instruction

Prepare for Session 3
Use with *Apply It*.

Levels 1–3	Levels 2–4	Levels 3–5
Listening/Speaking Read ***Apply It*** problem 1 to students. Ask them to point to the words *equal amount*. Ask students to discuss with a partner what operation they will need to solve the problem and why. Provide the following sentence frame: *When you break up a bigger number into equal* smaller *amounts, you need to* divide .	**Reading/Writing** Read ***Apply It*** problem 1. Have students read the problem with a partner and work together to decide on a strategy to use to solve for the amount of space Erica will give each vegetable. Have students work together to solve the problem using the strategy they chose.	**Reading/Writing** Have students read ***Apply It*** problem 1 with a partner and work together to decide on a strategy to use to solve for the amount of space Erica will give each vegetable. Ask partners to solve the problem. Have students work with a different group and discuss the different approaches each group selected to solve the problem. Provide a sentence starter and encourage students to justify their thinking: *We know our answer is correct because* _____.

ELL Differentiated Instruction provides scaffolds for the next session so teachers can focus on productive struggle when solving mathematics problems by addressing language needs throughout the lesson.