

## PROGRAM OVERVIEW

 **Ready<sup>®</sup> | Mathematics**

**Grades K–8**

High-Quality, Research-Based  
Supplemental Instruction | Practice | Assessment



# Results That Matter

***Ready Mathematics* helps students meet high expectations and ensures all students are on a path toward success.**

## It's Proven to Work

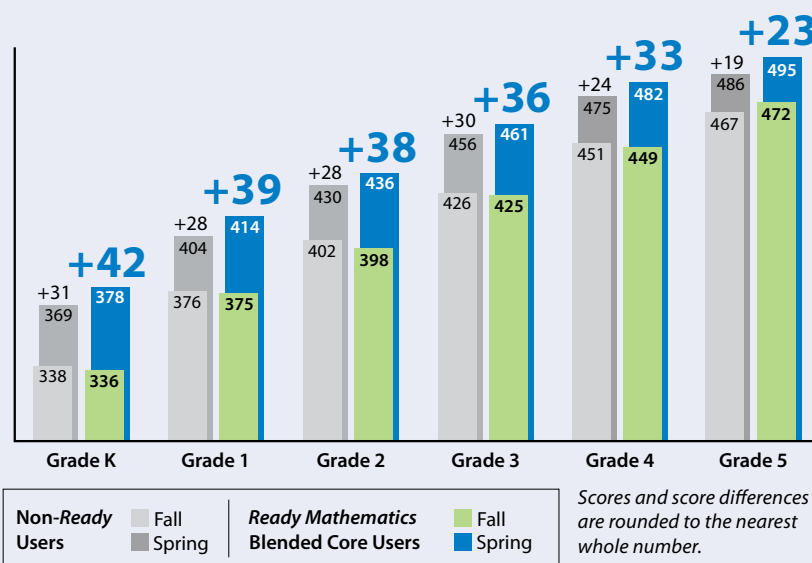
Third-party research conducted in three states with 32 schools and 21,000 students provides evidence of success using the program's instructional design.

**Read the full report:**

[CurriculumAssociates.com/ReadyMathBlendedESSA](https://CurriculumAssociates.com/ReadyMathBlendedESSA)

### Growth in Student Performance

Based on *i-Ready*® Diagnostic Scale Scores



## High-Quality Resources You Can Trust

Say goodbye to wasting time searching online for random activities to supplement your curriculum. With *Ready Mathematics*, educators are supported with a supplemental program that received top ratings from EdReports, an independent nonprofit that delivers evidence-based reviews of instructional materials.

After an extensive review by expert educators, *Ready Mathematics* met all criteria at every grade level with all-green ratings across EdReports' three gateways.



# Make Mathematics Meaningful for Students and Manageable for Teachers

Transform your students into active, real-world problem solvers by supplementing your core mathematics curriculum with *Ready Mathematics*' high-quality, research-based materials.

## How can *Ready Mathematics* supplement your existing curriculum?

- Fully Prepare Students for the Rigor of State Assessments..... [4](#)
- Engage All Students with Activities and Differentiation Resources..... [6](#)
- Provide Practice for Conceptual Understanding, Fluency, and Application... [8](#)
- Simplify Planning with Embedded Guidance and Support..... [10](#)
- Get More with *i-Ready* and Teacher Toolbox ..... [12](#)
- Program Components ..... [14](#)



# Fully Prepare Students for the Rigor of State Assessments

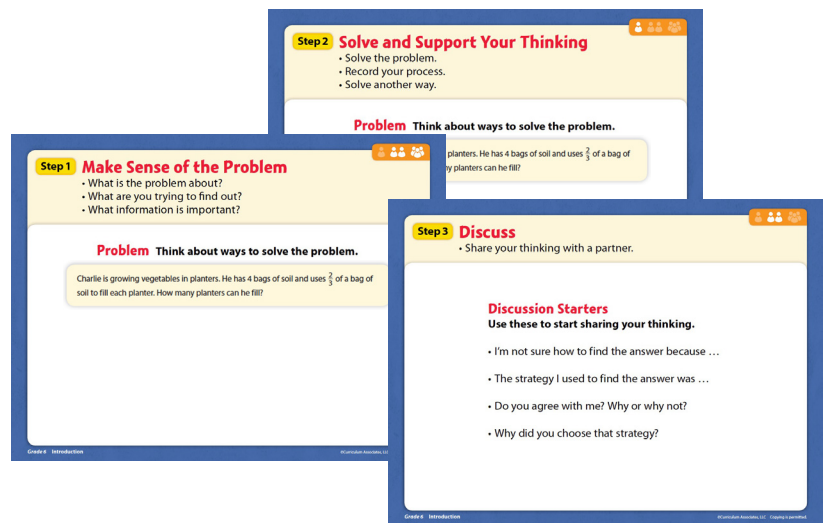
Ensure your students have deep conceptual understanding of state standards by adding rigor to your core mathematics curriculum. *Ready Mathematics* lessons deliver everything you need to facilitate meaningful mathematical discourse in a manageable way that develops students' problem-solving abilities.



Talking can help us better understand ways to solve a problem.

## Think-Share-Compare Routine

- 1. Make Sense of the Problem**  
Read and understand the problem or question. Think about the key information.
- 2. Solve and Support Your Thinking**  
Include pictures, models, and/or explanations in your solutions. If you have time, show another way to solve it.
- 3. Discuss**  
Explain your thinking to a partner. Discuss how your strategies are alike and different.
- 4. Compare**  
Compare your strategies with the class, including the strategies in the *Ready* book.
- 5. Connect and Reflect**  
Complete and discuss the *Connect It* questions.
- 6. Apply**  
Apply what you have learned to a new problem. Be sure to support your answer.



**Step 1 Make Sense of the Problem**

- What is the problem about?
- What are you trying to find out?
- What information is important?

**Problem** Think about ways to solve the problem.

Charlie is growing vegetables in planters. He has 4 bags of soil and uses  $\frac{3}{4}$  of a bag of soil to fill each planter. How many planters can he fill?

**Step 2 Solve and Support Your Thinking**

- Solve the problem.
- Record your process.
- Solve another way.

**Problem** Think about ways to solve the problem.

planters. He has 4 bags of soil and uses  $\frac{3}{4}$  of a bag of soil to fill each planter. How many planters can he fill?

**Step 3 Discuss**

- Share your thinking with a partner.

**Discussion Starters**  
Use these to start sharing your thinking.

- I'm not sure how to find the answer because ...
- The strategy I used to find the answer was ...
- Do you agree with me? Why or why not?
- Why did you choose that strategy?

**Presentation slides** make it easy for teachers to plan and facilitate the Think-Share-Compare routine.

The **Think-Share-Compare routine** embeds the Standards for Mathematical Practice to help students develop strong habits of mind.

**Multiday lessons** allow students time to develop the skills and a deeper understanding of the concepts required for long-term success.

## Lesson Pacing Guide

| Whole Class Instruction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                              | Small Group Differentiation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Day 1</b><br>45-60 minutes<br><b>Toolbox: Interactive Tutorial®</b><br>Understand Adding and Subtracting Fractions<br><b>Introduction</b><br>• Think It Through Question: 5 min<br>• Think: 10 min<br>• Think: 15 min<br>• Reflect: 5 min<br><b>Day 2</b><br>45-60 minutes<br><b>Modeled and Guided Instruction</b><br>Think About Adding and Subtracting Fractions<br>• Let's Explore the Idea: 20 min<br>• Let's Talk About It: 15 min<br>• Try It Another Way: 10 min<br><b>Day 3</b><br>45-60 minutes<br><b>Guided Practice</b><br>Connect Ideas About Adding and Subtracting Fractions<br>• Compare: 5 min<br>• Explain: 5 min<br>• Demonstrate: 5 min<br><b>Independent Practice</b><br>Apply Ideas About Adding and Subtracting Fractions<br>• Put It Together: 20 min<br>• Intervention, On-Level, or Challenge Activity: 15 min<br><b>Toolbox: Lesson Quiz</b><br>Lesson 15 Quiz | <b>Practice and Problem Solving</b><br>Assign pages 167-168.<br><b>Practice and Problem Solving</b><br>Assign pages 169-170.<br><b>Practice and Problem Solving</b><br>Assign pages 171-172. | <b>Teacher-Toolbox.com</b><br><b>Reteach</b><br><b>Ready Prerequisite Lessons</b> 45-90 min<br><b>Grade 3</b><br>• Lesson 14 Understand What a Fraction Is<br>• Lesson 15 Understand Fractions on a Number Line<br><b>Teacher-led Activities</b><br><b>Tools for Instruction</b> 15-20 min<br><b>Grade 3</b> (Lessons 14 and 15)<br>• Part of a Whole<br>• Part of a Set<br>• Fractions on a Number Line<br>• Place Fractions on Number Lines<br><b>Grade 4</b> (Lesson 15)<br>• Fractions as Sums<br><b>Student-led Activities</b><br><b>Math Center Activities</b> 30-40 min<br><b>Grade 3</b> (Lessons 14 and 15)<br>• 3.25 Write the Fraction<br>• 3.26 Show Fractions<br>• 3.27 Use Fraction Vocabulary<br>• 3.28 Identify Fractions on a Number Line<br><b>Personalized Learning</b><br><b>i-Ready.com</b><br><b>Independent i-Ready Lessons®</b> 10-20 min<br><b>Grade 3</b> (Lessons 14 and 15)<br>• Understand What a Fraction Is<br>• Understand Fractions on a Number Line |

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

©Curriculum Associates, LLC. Copying is not permitted. Lesson 15 Understand Fraction Addition and Subtraction 160b

Dear Family,

Your child is learning about unit rates.



Rates and unit rates are often used in everyday life. Some examples that you are probably familiar with are miles per hour, price per pound, and earnings per hour. You might use rates and unit rates when you are grocery shopping, traveling, or figuring out payments to a babysitter.

Rates and unit rates are related to ratios. A ratio compares two quantities, such as 6 cups of flour to 3 cups of sugar in a recipe. A rate compares the first quantity to just one of the second quantity. In the recipe example, the rate of flour to sugar is 2 cups of flour to 1 cup of sugar. The unit rate comparing flour to sugar is 2 because that is the number in the rate that is compared to 1.

Consider the following example:

A train travels 360 miles in 6 hours. The train makes no stops and travels at the same speed for the entire time.

How could you use the ratio of miles to hours to find the related rate and unit rate to describe how fast the train traveled?



On the next page you will see two ways your child may find a rate and a unit rate.

**Vocabulary**

**ratio** a way to compare two different quantities.

**rate** an equivalent ratio that compares the first quantity in a ratio to only one of the second quantity.

**unit rate** the number in a rate that is being compared to 1.

NEXT

**Research-driven instruction** encourages students to use higher-order thinking and complex reasoning through questions that focus on higher Depth of Knowledge levels.

A **Family Letter** is available for every lesson, helps families understand the content of the lesson, and includes a home activity.

## Lesson 9 Modeled and Guided Instruction

## Learn About Writing Equations

Read the problem below. Then explore different ways to model it.

Garrett is paid \$4 for every hour he babysits. Mrs. Becker paid him for 5 hours of babysitting. On the way home, Garrett spent \$9 on a book and \$6 on a puzzle. How much money did Garrett have left from the money he received from Mrs. Becker?

**Model It** You can use a bar model to help understand the problem.

|     |     |     |     |     |
|-----|-----|-----|-----|-----|
| \$4 | \$4 | \$4 | \$4 | \$4 |
| \$9 |     | \$6 |     | ?   |

The top part of the model shows the amount Garrett was paid for every hour and the number of hours he babysat.

The bottom part of the model shows the total amount he spent. You do not know how much money he has left.

**Model It** You can use the bar model to write equations for the problem.

Let  $B$  equal the amount Mrs. Becker paid Garrett.

$$B = 5 \times 4$$

He spent \$9 on the book and \$6 on the puzzle, so the amount he spent is  $9 + 6$ .

Let  $L$  be the amount he has left after buying the book and puzzle.

$$L = B - (9 + 6)$$

## Lesson 7 Guided Practice

## Practice Dividing with Fractions

Study the example below. Then solve problems 26–28.

**Example**

Lydia bought  $2\frac{1}{2}$  gallons of paint and used  $1\frac{1}{2}$  gallons of paint. What fraction of the paint did she use?

**Look at how you can show your work using a model.**

Think: What fraction of  $2\frac{1}{2}$  is  $1\frac{1}{2}$ ?

Some fraction of  $2\frac{1}{2}$  equals  $1\frac{1}{2}$ .

$$? \times 2\frac{1}{2} = 1\frac{1}{2}$$

To solve  $? \times 2\frac{1}{2} = 1\frac{1}{2}$ , divide.

$$? = 1\frac{1}{2} \div 2\frac{1}{2}$$

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

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

**Solution** Lydia used  $\frac{3}{5}$  of the paint she bought.

The student divided the number of gallons of paint used,  $1\frac{1}{2}$ , by the gallons of paint she bought,  $2\frac{1}{2}$ .

**Pair/Share**

How could you justify your answer with a picture?

Prompts in the **Student Instruction Book** provide ongoing opportunities for mathematical discourse.

# Engage All Students with Activities and Differentiation Resources

Whether you need a replacement lesson or are just looking for a few quality tasks, the content in *Ready Mathematics* is designed with the supports you need to engage all learners.

**Connect It** Now you will solve the problem from the previous page using a different area model.

Melinda decided to split her area model into five sections that each show  $6 \times 5 = 30$ . Draw Melinda's area model below. Then show how to subtract the partial products to find the answer.

|     |     |     |    |    |    |
|-----|-----|-----|----|----|----|
| 6   | 150 | 120 | 90 | 60 | 30 |
| 150 | 120 | 90  | 60 | 30 | 0  |
| 120 | 90  | 60  | 30 | 0  | 0  |
| 90  | 60  | 30  | 0  | 0  | 0  |
| 60  | 30  | 0   | 0  | 0  | 0  |
| 30  | 0   | 0   | 0  | 0  | 0  |
| 0   | 0   | 0   | 0  | 0  | 0  |

Can you use Melinda's model to solve the problem? Why or why not?  
Yes! Possible explanation: The area of the whole rectangle should be 150. If you add up the areas of the five sections in Melinda's model, you get 150.

Explain how an area model can help you break apart a division problem to make it easier to solve. Possible answer: The whole area model shows the number you are dividing. You can split the area model into smaller multiplication problems that you know using the divisor as one of the factors. In each section, you subtract that product from the whole. You keep going until you reach 0 or a number that is less than the divisor.

**Try It** Use what you just learned to solve these problems. Show your work on a separate sheet of paper.

$132 \div 3 = 44$   
 $364 \div 7 = 52$

**Visual Model**  
Divide a number ending in zeros by 10, 100, or 1,000.

Follow this method:

- Count the number of zeros on the end of the dividend and the number of zeros on the end of the divisor.
- Choose the least number of zeros between the dividend and the divisor. You can cross out this number of zeros from BOTH the dividend and the divisor. Then divide.
- Examples to illustrate this method:  
 $700 \div 10 = 70$   
 $900 \div 100 = 9$   
 $5,200 \div 1,000 = 5.2$   
 $12,000 \div 1,000 = 12$

**Lesson 12**

**Step By Step**

**Connect It**

- Have students describe why the model in problem 2 represents  $6 \times 25$ . Also, have students explain how the subtraction problem connects to the area model. Have

**English Language Learners**

Review the difference between the everyday definition and the math definition of the word *reasonable*. The everyday meaning is "commonly expected," but the math definition is "logical within the context of the given problem." For example, the everyday definition of a "reasonable total score" could be an 85 out of 100 points. However, knowing the particular facts about Lola's test (5 questions and a score of 4 or 6 on each question), if you calculated Lola's total score to be 85, your solution would be mathematically unreasonable.

**Concept Extension**  
Illustrate estimating a product by rounding.

- Explain that one way to estimate a product is by rounding one or both factors to numbers that are easier to use in mental math but close enough to the original numbers that your estimate is useful.
- Advise students to round as few factors as necessary, and round to the nearest number(s) they can do mental math with.
- Write  $18 \times 5$  on the board. Say, "I can multiply by fives in my head, so I'll only round 18. The closest 'easy to use' number to 18 is 20 and I know that  $20 \times 5$  is 100. Discuss whether this estimate is greater or less than the actual product. Ask: What makes you think that?"
- Ask students to find  $18 \times 5$ . Discuss how close the estimated product is to the actual product.

to find the solution. For example:  
 $3 \times 40 = 120$ ;  $132 - 120 = 12$ ;  $3 \times 4 = 12$ .  
 $40 + 4 = 44$ .

**Solution**  
 52. Students can subtract partial products to find the solution. For example:  
 $7 \times 50 = 350$ ,  $364 - 350 = 14$ ;  
 $7 \times 2 = 14$ ,  $14 - 14 = 0$ .

**Ready Mathematics**  
PRACTICE AND PROBLEM SOLVING

Assign Practice and Problem Solving pages 131–132 after students have completed this section.

**English Learner (EL) Support, Mathematical Discourse Questions, Hands-On Activities, and Visual Models** are available for every lesson, help parents or caregivers understand the content of the lesson, and include a home activity.

**ELL English Language Development**

**Prepare for Day 1: Use with Reflect**

**Academic Vocabulary:** *Affect* means "to change in some way."

| ELP Levels 1–3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ELP Levels 2–4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ELP Levels 4–5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reading/Writing</b> Use the <i>Three Reads</i> routine, reading the problem aloud and clarifying the meaning of the Academic Vocabulary word <i>affect</i> as needed. For the third read, display and label the key quantities as students identify them: tennis balls, baseballs, and the total number of balls with and without the basketball. After students write the ratios, provide these frames for written responses about the effect of adding the basketball. <ul style="list-style-type: none"> <li>The basketball affects <u>the total/the whole</u>.</li> <li>The basketball does not affect the ratio of <u>tennis balls to baseballs</u>.</li> <li>The basketball does affect the ratio of <u>the total to tennis balls</u>.</li> </ul> | <b>Reading/Writing</b> Use the <i>Three Reads</i> routine to help students identify the question and key quantities in <i>Reflect</i> . Call on pairs to explain the question and the important quantities before having students write the ratios independently. Then, ask partners to discuss the effect of adding the basketball before answering the last question in writing. Provide frames: <ul style="list-style-type: none"> <li>The basketball affects <u>the total/the whole</u>.</li> <li>The basketball does not affect the ratio of <u>tennis balls to baseballs</u> because <u>it is a part-to-part ratio and does not include the whole</u>.</li> <li>The basketball does affect <u>the ratio of the total to tennis balls because the new total is greater</u>.</li> </ul> | <b>Reading/Writing</b> Use the <i>Three Reads</i> routine to help students identify the question and key quantities in <i>Reflect</i> . Have them write the ratios independently and then compare responses with a partner. Then, have students discuss with a partner how the addition of the basketball affects the ratios before writing their explanations independently. Challenge students to use "part to part," "part to whole," or "whole to part" to express their reasoning about why the ratio is or is not affected by the addition of the basketball. |

**Prepare for Day 2: Use with Try It**

**Academic Vocabulary:** The phrase *at least two* means "two or more."

| ELP Levels 1–3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ELP Levels 2–4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ELP Levels 4–5                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reading/Writing</b> Display <i>Try It</i> problem 7 and read it aloud, pointing to the quantities. Clarify the meaning of <i>each</i> and ask students to describe the situation in their own words. Then, clarify the meaning of "at least two" and ask students to explain what the problem asks them to do. Read the description of the first ratio aloud. Ask students to name the quantities and state the ratio in a complete sentence before writing it in at least two ways: <ul style="list-style-type: none"> <li>The quantities are <u>Miss Garcia's sales</u> and <u>the goal</u>.</li> <li>The ratio of <u>Miss Garcia's sales to the goal</u> is <u>87 to 100</u>.</li> </ul> Continue in the same way with the other two ratios. | <b>Reading/Writing</b> Have students partner-read <i>Try It</i> problem 7. Call on pairs to explain the situation and name the quantities. Ask a volunteer to explain the task. Ensure that students understand the meaning of "at least two." Ask partners to work together to read the description of the ratio, name the quantities, and state each ratio in complete sentences, using frames as needed: <ul style="list-style-type: none"> <li>The quantities are <u>      </u> and <u>      </u>.</li> <li>The ratio of <u>      </u> to <u>      </u> is <u>      </u>.</li> </ul> When partners agree, each student should then write the ratio in at least two ways. Circulate and provide help as needed. | <b>Reading/Writing</b> Have students read <i>Try It</i> problem 7 independently. Then, call on volunteers to explain the situation and the task in their own words. If needed, clarify the meaning of "at least two." Have students complete the <i>Try It</i> problems independently and compare answers with a partner. When partners agree that the ratios they have written are correct, ask them to state the ratios to one another in complete sentences. |

**Language Routines** enhance the Think–Share–Compare routine by supporting students as they make sense of the problem, learn content, develop mathematical practices, and master language.

## Independent Practice

## At A Glance

Students use addition and subtraction to solve one-step word problems that might appear on a mathematics test.

## Solutions

## 1. Solution

A, B, and D; 13 is the total, so equations that show adding 9 and 4 or subtracting 9 or 4 from 13 can be used to solve the problem. **DOK 2**

## 2. Solution

D; Since there are 8 fewer cows in the barn than in the field, there are 8 more in the field.  $8 + 5 = 13$ . **DOK 2**

## 3. Solution

a. Yes; b. No; c. No; d. Yes; 9 is the total, so equations that show adding 5 and 4 or subtracting 5 or 4 from 9 can be used to solve the problem. **DOK 2**

## Practice Solving Different Kinds of Word Problems

## Solve the problems.

1 Rick has 13 marbles. 4 marbles are blue. The rest are white. How many white marbles are there?

Fill in the blanks. Then circle the letter for all the equations that can be used to solve the problem.

- A  $13 - 4 = 9$  C  $13 + 4 = 17$   
 B  $13 - 9 = 4$  D  $4 + 9 = 13$

2 There are 5 cows in the barn. There are 8 fewer cows in the barn than in the field. How many cows are in the field? Circle the correct answer.

- A 3 C 12  
 B 8 D 13

3 Jin has 9 markers. He has 5 more markers than pencils. How many pencils does Jin have? Circle Yes or No to tell if each equation can be used to solve the problem.

- a.  $9 - 5 = 4$  Yes No  
 b.  $9 + 5 = 14$  Yes No  
 c.  $14 - 5 = 9$  Yes No  
 d.  $5 + 4 = 9$  Yes No

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## Quick Check and Remediation

- There were 11 children riding bikes. Some children rode home. Now there are 7 children riding bikes. Ask students to find the number of children who rode home. [4]
- For students who are still struggling, use the chart to guide remediation.
- After providing remediation, check students' understanding using the following problem: Sue finds 13 socks under her bed. 5 socks are blue. The rest are black. How many black socks does she find? [8]

| If the error is ... | Students may ...                                           | To remediate ...                                                                                                                                                                                                                                           |
|---------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18                  | have added the given numbers.                              | Provide students with counters to act out the problem. Guide them to see that when some children go home, subtraction is involved.                                                                                                                         |
| 5                   | have subtracted incorrectly.                               | Help students use a counting back strategy or fact families. Since $11 - \underline{\quad} = 7$ , $7 + \underline{\quad} = 11$ . Encourage students to think of making a ten to help solve mentally. ( $7 + 3 = 10$ and one more is 11, so $7 + 4 = 11$ .) |
| any other number    | have subtracted incorrectly or misrepresented the problem. | As you read each sentence in the problem, have students describe what the sentence says and model it with counters or a picture. Write an equation for the problem and compare it with the equation the student wrote. Check for computational accuracy.   |

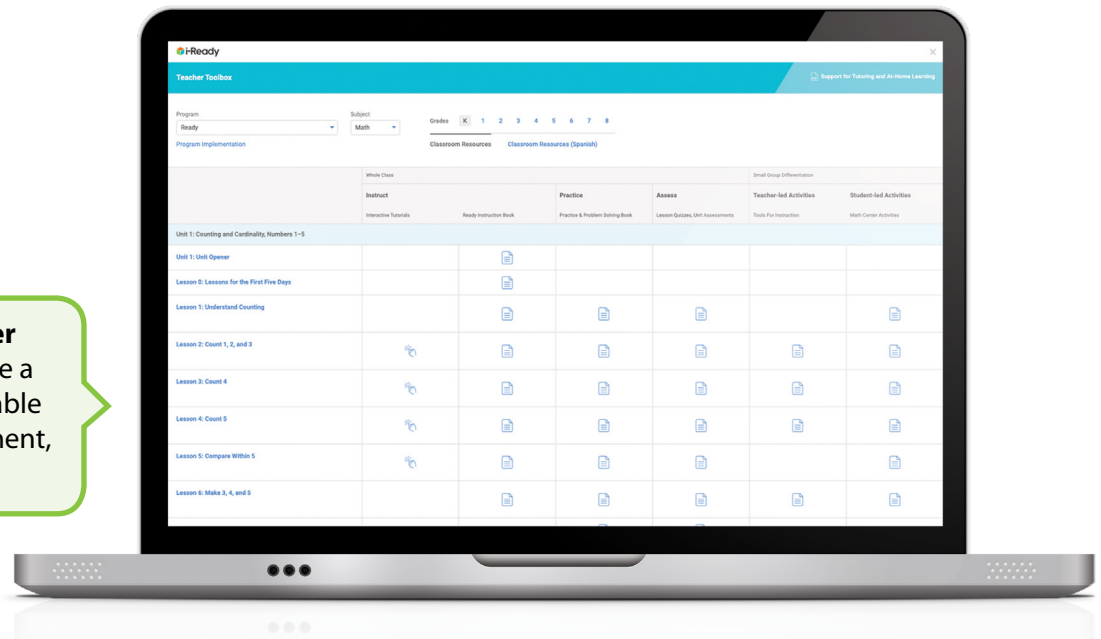
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Lesson 2 Solve One-Step Word Problems

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**Quick Check and Remediation** provides opportunities to monitor student understanding and ways to address common errors.

With the **optional Teacher Toolbox** add-on, you have a wealth of resources available for reteaching, reinforcement, and extension.



See more about the differentiation resources available on Teacher Toolbox on [page 12](#).

# Provide Practice for Conceptual Understanding, Fluency, and Application

Set students up for success with robust practice that matches both the rigor and item types of state assessments. *Ready Mathematics* includes practice opportunities for conceptual understanding, procedural fluency, and application for use in class, after school, or at home.

**Conceptual practice** ensures students understand the “why” behind the mathematics.

**4** Which model(s) below could represent the solution to the problem  $45 \times 15$ ? Circle the letter for all that apply.

A

B

C  $(4 \times 1) + (4 \times 5) + (5 \times 1) + (5 \times 5)$

D  $(4 \times 1) + (5 \times 5)$

E

**5** Mo had 14 tutoring sessions. Each session was 35 minutes long. How many minutes did Mo spend in the 14 sessions combined?

**Show your work.**

**Answer** Mo spent \_\_\_\_\_ minutes in the 14 sessions.

Fourth grade students held a recycling drive. During one week they collected 1,238 water bottles each day. How many water bottles did the fourth graders collect each week? [Hint: There are 7 days in one week.]

**Show your work.**

**Answer** The fourth grade students collected \_\_\_\_\_ water bottles.

**Check** Go back and see what you can check off on the Self Check on page 111.

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Lesson 2

Name: \_\_\_\_\_

**Multiply and Divide with Powers of Ten**

**Study the example showing how the decimal point moves when you multiply a decimal number by a power of ten. Then solve problems 1–7.**

**Example**

Find  $100 \times 0.004$ .  $100 \times 0.004 = 10 \times 10 \times 0.004$

Break 100 into the product of 10s.

$= 10 \times 0.04$

$= 0.4$

The decimal point moves one place to the right for each factor of ten.  $100 \times 0.004 = 0.4$

**1** Write the missing power of ten.

a.  $0.04 \times \underline{\hspace{1cm}} = 0.4$   $0.004 \times \underline{\hspace{1cm}} = 4$

b.  $\underline{\hspace{1cm}} \times 0.006 = 0.6$   $\underline{\hspace{1cm}} \times 0.006 = 6$

c.  $0.007 \times \underline{\hspace{1cm}} = 7$   $0.07 \times \underline{\hspace{1cm}} = 7$

**2** When you multiply a decimal by a power of ten, what is the relationship between the number of places the decimal point moves and the number of zeros in the power of ten? Give an example.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**3** Complete the equations.

a.  $0.03 \times 1,000 = \underline{\hspace{1cm}}$

b.  $0.008 \times 100 = \underline{\hspace{1cm}}$

**Vocabulary**

**power of ten** a number that can be written as a product of tens.

$10 = 10$

$100 = 10 \times 10$

$1,000 = 10 \times 10 \times 10$

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**State assessment practice** mirrors the type and format of state assessments to prepare students for high-stakes testing and build their confidence.

### Unit 3 Interim Assessment continued

#### Performance Task

Answer the questions and show all your work on separate paper.

Rocky's parents are buying him a cell phone. His parents told him that they could budget only \$1,000 this year for his cell phone and calling plan. Rocky wants to get the brand new J-phone and found three wireless companies that carry that phone. The companies each have different plans that include unlimited talk, text, and data.

Neighbors Mobile charges \$180 for the J-phone and \$80 per month for the calling plan. V-Cell charges \$195 for the J-phone and \$70 per month for the calling plan. BG&G Mobile charges the most for the J-phone at \$270, but the calling plan is only \$60 per month.

Which plan can Rocky's parents afford with a budget of \$1,000? Write a summary for Rocky to give to his parents to explain his choice. Make sure you show your calculations and explain what they mean.

#### Checklist

Did You . . .

- ☐ Write inequalities to represent the calling plans?
- ☐ Use the inequalities to solve the problem?
- ☐ Choose a plan and support your choice?

#### Reflect

**Reflect on Mathematical Practices** After you complete the task, choose one of the following questions to answer.

- **Model** How did you decide whether to write equations or inequalities to represent the cost of the different plans?
- **Reason Mathematically** How could Rocky convince his parents that his choice will be under the budget they've set?

**Performance tasks** integrate concepts and skills from multiple standards to give students practice with solving multistep problems.

#### Assessment 1

Answer questions 1–40. Answer questions outlined in red in your test book. Answer all other questions on the Answer Form.

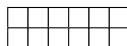
- 1 Which expressions can be used to find the area of the rectangle? Mark all that apply.

#### Part A



- A  $3 + 3 + 3$
- B  $4 + 4 + 4$
- C  $3 \times 4$
- D  $4 \times 3$

#### Part B



- A  $6 + 6 + 6 + 6 + 6 + 6$
- B  $2 + 2 + 2 + 2 + 2 + 2$
- C  $6 + 2$
- D  $6 \times 2$

**Go On**

Assessment 1  
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### Unit 2 Game

#### Fraction Sums and Differences

**What you need:** Recording Sheet, 1 number cube (1–6)

#### Directions

- Both players roll the number cube four times and record the four numbers at the top of the Recording Sheet. Players use these same numbers for Rounds 1 through 4.
- In each round the players use these four digits to create two fractions.
- In Round 1, the player with the **greatest sum** wins the round. Use the digits to make two fractions, and add them. Record the addition and sum on the Recording Sheet.
- In Round 2, the player with the **greatest difference** wins the round. Make two fractions, and subtract one from the other. Record the difference.
- In Round 3, the player who makes the **least sum** wins.
- In Round 4, the player who makes the **least difference** wins.
- In Round 5, the players decide together whether to add or subtract and whether to try for the greatest or least result. After deciding, players both roll 4 new numbers to use in the final round.

The greater the fractions, the greater the sum. But what does it mean to have the greatest difference?

#### Fraction Sums and Differences Recording Sheet

Name: \_\_\_\_\_

Player A Name

Digits:

Player B Name

Digits:

**Greatest Sum**

1.  $\frac{\square}{\square} + \frac{\square}{\square} = \square$

**Greatest Difference**

2.  $\frac{\square}{\square} - \frac{\square}{\square} = \square$

**Least Sum**

3.  $\frac{\square}{\square} + \frac{\square}{\square} = \square$

**Least Difference**

4.  $\frac{\square}{\square} - \frac{\square}{\square} = \square$

**Players' Choice**

5.  $\frac{\square}{\square} \pm \frac{\square}{\square} = \square$

**Unit Games** reinforce student learning in an engaging, novel way.

# Simplify Planning with Embedded Guidance and Support

Create a predictable learning environment where students thrive with a program that's easy to deliver. *Ready Mathematics* includes the tools to build your own expertise and make an immediate and sustained impact on the classroom.

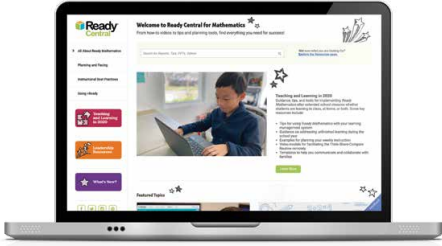
Planning resources help teachers select lessons and differentiation resources to target your unique classroom needs.

## Pacing for Ready® Mathematics as a Supplement

Each *Ready Mathematics* lesson is approximately one week of instruction.  
A day of instruction assumes at least 45–60 minutes of mathematics instruction.

| Monthly Pacing Guide* |                                        |
|-----------------------|----------------------------------------|
| September             | Lessons 1–4                            |
| October               | Lessons 5–8<br>Unit 1 Math in Action   |
| November              | Lessons 9–12<br>Unit 2 Math in Action  |
| December              | Lessons 13–16<br>Unit 3 Math in Action |
| January               | Lessons 17–19<br>Unit 4 Math in Action |
| February              | Lessons 20–23                          |
| March                 | Lessons 24–27                          |
| April                 | Lessons 28–30<br>Unit 5 Math in Action |
| May                   | Lessons 31–33<br>Unit 6 Math in Action |

For additional planning and pacing guidance, please visit [Math.ReadyCentral.com](https://math.readycentral.com)



\* Adjust suggested monthly pacing based upon school start date.

### Pacing for Ready Mathematics as a Supplement

Using *Ready Mathematics* as a supplement to an existing program ensures the rigor and coherence of the standards are taught thoroughly and systematically. *Ready Mathematics* helps teachers meet the challenges of the college- and career-ready standards and exposes students to the types of higher-level questions that they will see on assessments.

*Ready Mathematics* integrates strategies, models and concepts with the Standards for Mathematical Practice. Throughout instruction there is a balance of conceptual understanding (the “why”) and procedural fluency (the “how”).

Use *Ready Mathematics* lessons after students have developed conceptual understanding and practiced procedural skills using lessons from an existing program to make sure that they are applying the standards with the appropriate degree of rigor.

The following two suggested implementation options offer different ways to implement *Ready Mathematics* to supplement weekly math instruction.

**Ready Mathematics suggested weekly pacing (1 lesson a week)**

|                        | Day 1        | Day 2        | Day 3        | Day 4                                                                                                                    | Day 5                                                                    |
|------------------------|--------------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Math Instruction Focus | Core Program | Core Program | Core Program | <i>Ready Mathematics</i> Introduction (5 minutes)<br>Modeled Instruction (30 minutes)<br>Guided Instruction (25 minutes) | <i>Ready Mathematics</i> Guided Practice and State Practice (45 minutes) |

**Mathematics suggested weekly pacing (centers or rotations)**

|          | Day 1                                                                                                 | Day 2                                                                                                 | Day 3                                                                                                 | Day 4                                                                                                 | Day 5                                                                                                 |
|----------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Rotation | Core Program<br>Leverage <i>Ready Mathematics</i> lessons during small group center or rotation time. | Core Program<br>Leverage <i>Ready Mathematics</i> lessons during small group center or rotation time. | Core Program<br>Leverage <i>Ready Mathematics</i> lessons during small group center or rotation time. | Core Program<br>Leverage <i>Ready Mathematics</i> lessons during small group center or rotation time. | Core Program<br>Leverage <i>Ready Mathematics</i> lessons during small group center or rotation time. |

Meeting New Expectations & Best Practices

What Ready Mathematics Instruction Looks Like

How to Implement Ready Mathematics

**Embedded expert guidance,** like Step by Step, provides support and suggested language on teaching specific mathematics skills. Great for paraprofessionals!

### ► English Language Learners

Discuss the phrase *left over* with students. Explain that it is just another way to say, "How much is left?" It means that you have something, and then some of it is used—or goes away—and what you still have remaining after that is what you have *left* or *left over*.

### ► Mathematical Discourse

#### 3 What does the table show?

Students will recognize the types of shirts and shoes. Encourage them to dig to recognize the differences between costs for print and online. Also help them see the importance of having all the information organized in rows and columns. This helps the reader compare differences in costs.

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### Try It

#### 17 Solution

Rina's recipe: Students may simplify ratios to find the unit rate. Rina:  $\frac{2}{2\frac{1}{2}} = 2 \div 2\frac{1}{2} = \frac{4}{5}$ ; Jonah:  $\frac{2\frac{1}{4}}{\frac{3}{4}} = 2\frac{1}{4} \div \frac{3}{4} = \frac{3}{4}$ . Each dozen of Rina's cookies contains  $\frac{4}{5}$  cup sugar. Each dozen of Jonah's contains  $\frac{3}{4}$  cup of sugar. Rina's cookies use more sugar per dozen.  $\frac{4}{5}$  is greater than  $\frac{3}{4}$ .

**Error Alert** Students who wrote Jonah may have found the rate of dozens of cookies per cup of sugar.

Rina:  $\frac{2\frac{1}{2}}{2} = 1\frac{1}{4}$ ; Jonah:  $\frac{3}{2\frac{1}{4}} = 1\frac{1}{3}$ . However, that means Jonah's recipe has more cookies per cup of sugar, not more sugar per dozen cookies.

**Ready Mathematics**  
PRACTICE AND PROBLEM SOLVING

Assign Practice and Problem Solving pages 91–92 after students have completed this section.

Lesson 9 Ratios Involving Complex Fractions

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Lesson 6 Multiplication and Division Facts

### Lesson 6 Introduction Multiplication and Division Facts

#### At A Glance

Students use what they know about how multiplication and division are related to solve a division problem. Then students explore the use of fact families to find an unknown number in a multiplication or division equation.

#### Step By Step

- Work through **Use What You Know** as a class.
- Tell students that this page explores a way to make learning division facts easier.
- Remind students that multiplication and division are related. Write the equations " $3 \times 4 = 12$ " and " $12 \div 3 = 4$ " on the board. Help students to focus on the structure of the two facts. Point out that in multiplication, you end with the total amount, after two factors are multiplied. In division, you begin with the total amount and divide it into equal shares.

#### SMP TIP Use Structure

Students are asked to look at the structure of multiplication and division equations to make sense of the relationship between the two operations. (SMP 7)

- Have students read the marble problem at the top of the page.
- Write the division equation " $24 \div 3 = \square$ " on the board. Ask students to think of the multiplication fact that multiplies a number by 3 to get 24. Point out the multiplication table and ask them to find the fact.

#### ► Mathematical Discourse 1

- Ask student pairs to tell each other how they used multiplication facts to solve the division problem.

#### ► Concept Extension 1

### Lesson 6 Introduction Multiplication and Division Facts

#### Use What You Know

You learned that multiplication and division are related. Look at this problem to see how multiplication can help you with division facts.

Kenny has 24 marbles. He puts the same number of marbles in each of 3 bags. How many marbles are in each bag?



- Write a division equation you need to solve to answer this question.  $24 \div 3 = \square$
- Think about finding the number of marbles in each bag as a multiplication problem. How many equal groups are there?  $\square$
- You don't know how many marbles are in each group. Write a multiplication equation that says 3 groups of  $\square$  marbles is 24.  $3 \times \square = 24$
- Multiplication facts for 3 are shown below.

|                   |                   |                   |                   |                    |
|-------------------|-------------------|-------------------|-------------------|--------------------|
| $3 \times 1 = 3$  | $3 \times 2 = 6$  | $3 \times 3 = 9$  | $3 \times 4 = 12$ | $3 \times 5 = 15$  |
| $3 \times 6 = 18$ | $3 \times 7 = 21$ | $3 \times 8 = 24$ | $3 \times 9 = 27$ | $3 \times 10 = 30$ |

Write the fact for this problem.  $3 \times 8 = 24$

- What number is  $\square$ ?  $8$
- How many marbles are in each bag?  $8$
- How could you check your answer?  
Possible answer: I could start with 24 counters and make groups of 8.  
If I end up with 3 groups of 8, then I know my answer is correct.

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#### ► Mathematical Discourse

- How can knowing a multiplication fact help you to find the missing number in a division fact?  
The same three numbers are used in related multiplication and division facts, so you look for the number that is in the multiplication fact, but missing from the division fact.
- Why is the total amount in different positions in the multiplication and division equations?  
In multiplication, the total is the result of combining equal groups. In division, you start with the total and divide it into equal groups.

#### ► Concept Extension 1

Use sentence frames to rephrase division as multiplication.

- Point out that thinking of a related multiplication fact can make finding the missing number in a division equation easier. Write the equation " $18 \div 3 = \square$ " on the board. Then write the sentence frame: "\_\_\_\_\_ times what number equals \_\_\_\_\_?"
- Have students read the question, filling in the blanks using numbers from the division equation. [3 times what number equals 18?] Instruct students to write the multiplication equation for it. [ $3 \times \square = 18$ ] Have students identify the number that completes both equations. [6]
- Repeat the steps for  $24 \div 4 = \square$  and  $21 \div 3 = \square$ .

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**Teaching tips in every lesson,** such as EL Support, Error Alerts, Concept Extensions, and vocabulary strategies, highlight opportunities to monitor and provide scaffolded instruction to address the needs of diverse learners.

#### ► Concept Extension

##### Finding equal parts that are different shapes.

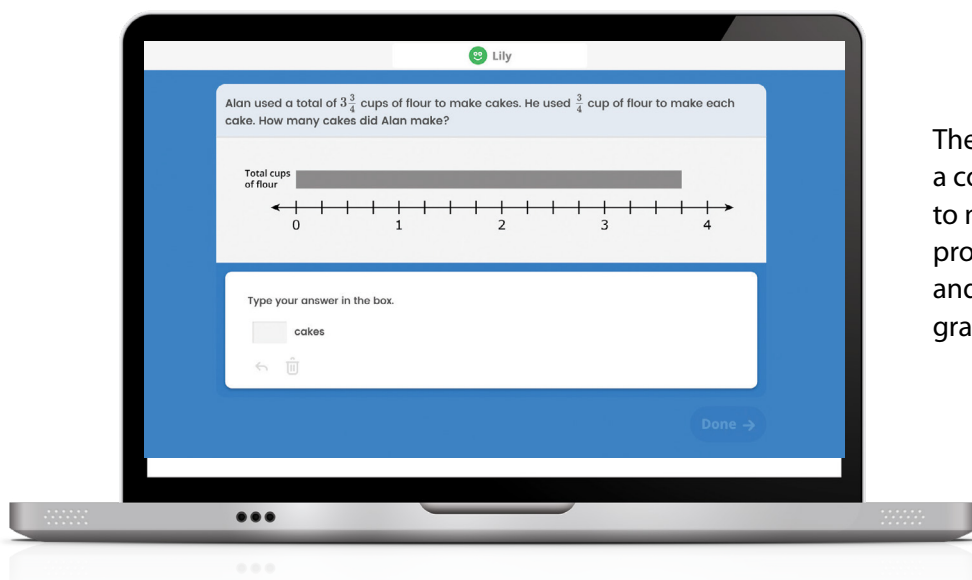
**Materials:** 3-square by 3-square sections of paper, 3 individual squares from the same squared paper, crayons or markers

- Draw a 3-row by 3-column square on the board to duplicate the squares the students have. Model shading the bottom two squares of the first column and the bottom square of the middle column, for a total of 3 shaded squares that form a right angle. Point out that this is one equal part. Direct students to place the 3 individual squares on top of their shaded squares. Check to see they have positioned these squares correctly and have them color the squares underneath all the same color.
- Explain that *equal parts* for fractions means the parts are the same size; they do not have to be the same shape. Ask students to find as many equal parts of that same size as they can, using the 3 individual squares, and color each equal part a different color.
- Have students display their completed squares and discuss what they show. [Each of the 3 different colored parts of the large square are the same size even if their 3 squares are not next to each other.]

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# Get More with *i-Ready* and Teacher Toolbox

Give every student a personalized learning experience. By combining the effective classroom instruction of *Ready Mathematics* with the intuitive data, online resources, and digital instruction of *i-Ready*, you can accelerate students' learning and drive growth.

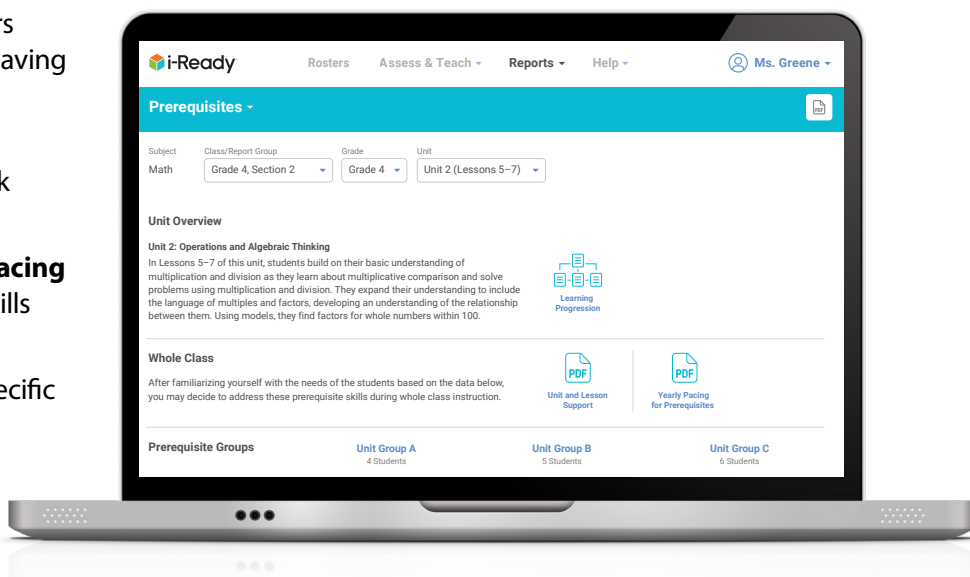


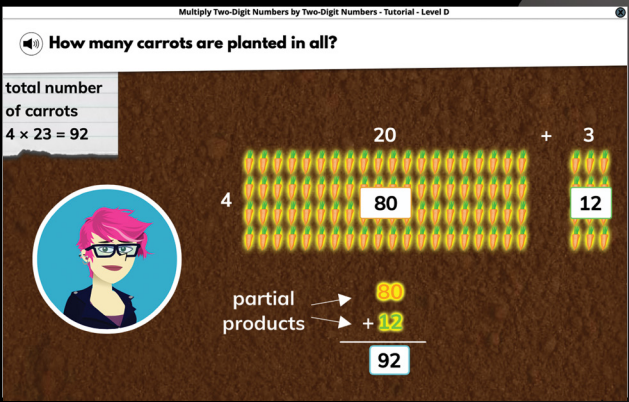
The ***i-Ready Assessment*** suite offers a collection of assessments designed to measure student performance and provide educators with actionable data and insights to help students reach grade-level proficiency and beyond.

At the heart of the *i-Ready Assessment* suite is the adaptive ***i-Ready Diagnostic***, which provides an individualized summary identifying students' strengths and where they may need additional support across the Grades K–12 continuum.

The **Prerequisites report** helps teachers address unfinished learning with time-saving resources like:

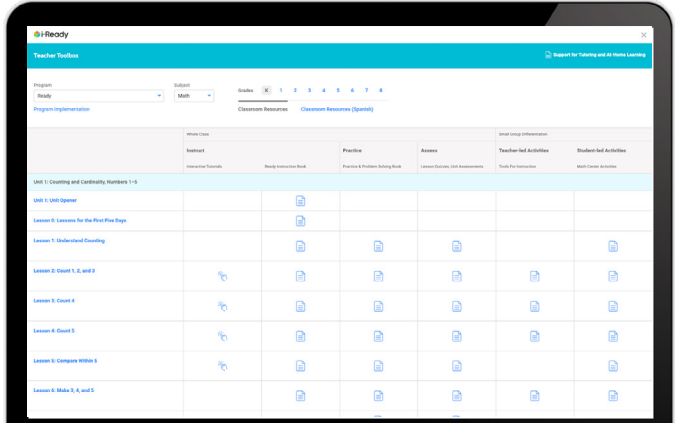
1. **Learning Progression:** Map the progression of standards going back more than two years.
2. **On-the-Spot Teaching Tips and Pacing Guidance:** Integrate prerequisite skills into grade-level content.
3. **Small Group Resources:** Target specific prerequisite skills with teacher-led, partner, and independent activities.



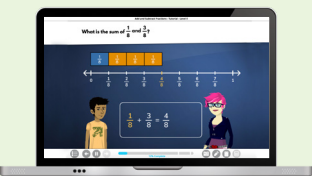


***i-Ready Personalized Instruction*** uses insights from students' Diagnostic results to create a personalized path of engaging digital lessons. Students work through lessons on My Path at their own pace, or teachers can assign lessons to support students on their learning journey.

**Teacher Toolbox** helps teachers meet the needs of all students by providing digital access to all *Ready Mathematics* Grades K–8 resources for instruction, practice, assessment, and differentiation.

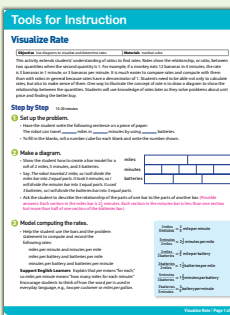


## Student Engagement



**Interactive Tutorials**  
and engaging grade-  
level instruction

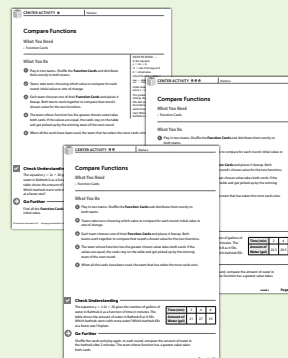
## Reteaching Activities



## Tools for Instruction

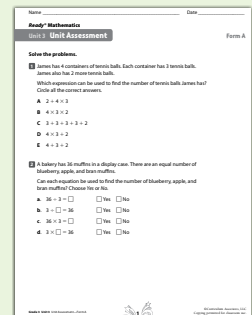
to teach concepts in a different way

## Leveled Center Activities



**Math Center**  
**Activities** available  
in three levels

## Monitor Progress



**Assessments** that match  
high-stakes content,  
format, and rigor

# Program Components

## Ready Mathematics K–8

Ready  
Matemáticas

Available in  
Spanish!



### Instruction Books E/S

Engage students and develop deep understanding with clear, thoughtful instruction.



### Practice and Problem Solving Books E/S

Students can demonstrate their understanding through a wealth of practice options and opportunities.

For every lesson:

- Family Letter
- Practice for each section in *Ready Instruction*

For every unit:

- Unit Games
- Unit Practice
- Unit Performance Tasks
- Unit Vocabulary
- Fluency Practice Worksheets



### Assessment Books E/S

Give students exposure to the same content, format, and rigor of high-stakes tests with the program's cumulative assessments.

E/S = Available in English and Spanish

Digital versions of *Ready Mathematics* Instruction, Practice and Problem Solving, and Assessment books are available on the Teacher Toolbox.

# Optional Add-Ons

## Online Teacher Toolbox

Quickly find additional research-based resources for instruction, practice, differentiation, and assessment to supplement your Grades K–8 mathematics curriculum—all in one convenient location.

- Presentation slides for the Think–Share–Compare routine E/S
- Interactive Tutorials E/S
- Ready Instruction Prerequisite Lesson PDFs E/S
- Lesson Quiz PDFs E/S
- Tools for Instruction PDFs E/S
- Unit/Mid-Unit Assessment PDFs E/S
- Family Letters E/S



## *i-Ready* Assessment and Personalized Instruction

Empower student growth and success with one comprehensive system that uses the insights from the Diagnostic to create a personalized path of engaging online lessons and recommended instructional resources.



## *i-Ready* Success Central

Get on-demand access to implementation support and guidance included with your Teacher Toolbox or *i-Ready* purchase.

- Training videos
- Planning tools
- Implementation tips
- Discourse support



## Manipulatives

*Ready Mathematics* was built to work with common manipulatives that you likely already have in your classroom. However, you can add individual materials to your existing kits or purchase manipulative kits developed specifically for use with *Ready Mathematics* through [hand2mind®](https://hand2mind.com).



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**Explore More:**

[CurriculumAssociates.com/Programs/i-Ready-Learning/Ready/Mathematics](https://CurriculumAssociates.com/Programs/i-Ready-Learning/Ready/Mathematics)

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**To see how other educators are maximizing their  
*Ready Mathematics* experience, follow us on social media!**



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