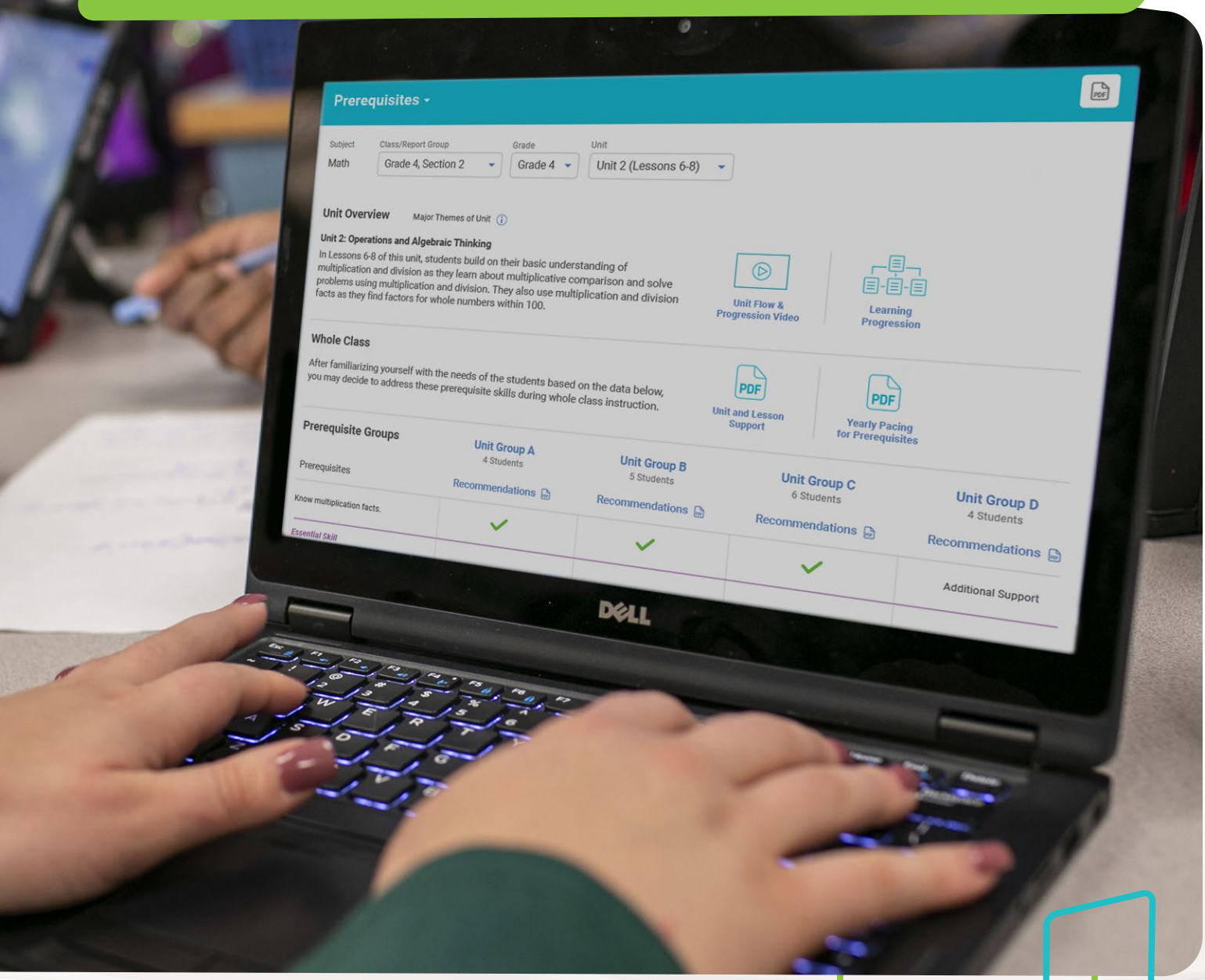
i-Ready Classroom Mathematics

It's Fall—What Can the Prerequisites Report Tell You Now?

by Kate Gasaway, Product Marketing Manager for Mathematics, Curriculum Associates



It's fall. You and your students have gotten reacquainted with your alarm clocks.

You've made—and probably remade—your seating charts. Your classroom routines are starting to click and become second nature. And you probably haven't looked at the Prerequisites report in a while.

A 2019 Pew Research Center survey showed that students' first day of school could be as early as July 23 or as late as the day after Labor Day. That means that by now, two months may have passed since your students took the Diagnostic. Does this mean that, like a beach-themed bulletin board created in August (or July, I'm so sorry), that the Prerequisites report has outlived its usefulness? Absolutely not! **Here are four things in the Prerequisites report—generated from your students' initial Diagnostic Results—that are useful to you right now.**

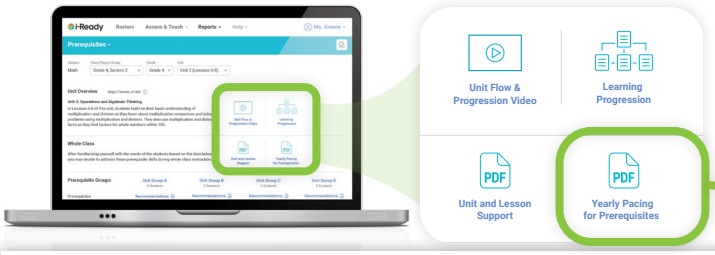
1. How your yearly pacing is going so far
2. What small groups to work with to address relevant unfinished learning
3. What whole class on-the-spot questions or supports you can you use in your upcoming lessons
4. How the topics in a unit connect to learning from earlier grades

1 How Your Yearly Pacing Is Going So Far

Pacing was always a challenge for me in the classroom. Whether it was a fire drill, unexpected field trip, or wild bird set loose in the classroom, there was always something that threw off my lesson calendar. Over time, I got better at responding to these challenges with flexibility instead of saltiness. During our one-on-ones, my department chair and I would go over my calendar and pacing and (re)make a plan that fit my students' needs and accommodated the almost funny number of hiccups and interruptions. I learned to stop worrying and love my calendar.

If you need an occasional pacing check-in, the Yearly Pacing for Prerequisites in the Prerequisites report can help. It shows you when to integrate Prerequisite Lessons from prior grades if your whole class needs to address specific skills, as well as where you could compress your lesson timeline if needed. As your carefully laid plans get inevitably jostled, the resources outlined below can help you make smart adjustments and keep track of your changes:

- The Yearly Pacing for Prerequisites and Alternate Pacing Guide can help you make informed decisions about how to adjust your timeline.
- The Embrace the Pace Instructional Day Trackers let you see your whole instructional year at a glance.
- The Pacing Calendar lets you record and edit your schedule easily.
- The Pacing Video Series* has pacing recommendations from our implementation team.



YEARLY PACING FOR PREREQUISITES — READY CLASSROOM MATHEMATICS

Grade 4 Alternate Pacing Guide

Use the Prerequisites report to identify opportunities to review or teach content from the previous grade.

Lesson 0 Lessons for the First Five Days Use Lesson 0 to establish routines and review rounding to the nearest 100 and using place value strategies to add and subtract within 1,000.	5 days
Unit 1 Whole Numbers: Place Value, Comparison, Addition, and Subtraction **PREPARE students for Unit 1** by reviewing three-digit place-value skills to support students with multi-digit work. **Unit 1** lessons build on skills that were reviewed in Lesson 0. There are no additional recommended prerequisite lessons.	
Lesson 1 Understand Place Value	3 days
Lesson 2 Compare Whole Numbers	3 days
Lesson 3 Round Whole Numbers	3 days
Lesson 4 Add Whole Numbers	4 days
Lesson 5 Subtract Whole Numbers	4 days

Figure 1: i-Ready Classroom Mathematics *Prerequisites Grade 4 Learning Progression*

*To access these resources, you will be prompted to log in to your *i-Ready Connect*™ account.

2 What Small Groups to Work with to Address Relevant Unfinished Learning

One of the things that makes teaching math different from other subjects isn't just how much students' success depends on their earlier learning, but how many different *kinds* of prior learning there are. The prerequisite skills students draw on can vary widely from unit to unit, and students' proficiency and needs can vary just as much. For example, every year I taught Grade 8, some students who excelled at solving equations algebraically struggled with geometric transformations, and vice versa. When we changed domains, I had to stay on my toes to make sure I caught students who needed support, didn't overlook students who had done well in earlier units, and recognized students' new strengths.

At this point in the year, you may be well into your second unit. Since you're teaching new material, you're going to have new groups of students with new kinds of unfinished learning to address. The Diagnostic generates a Prerequisites report for every unit, complete with Unit Groups populated with students with similar needs and recommended resources to help them be successful with the unit's content. If you haven't already done so, you may want to take a minute to check your Prerequisite Groups for this unit and see how they've changed from Unit 1.

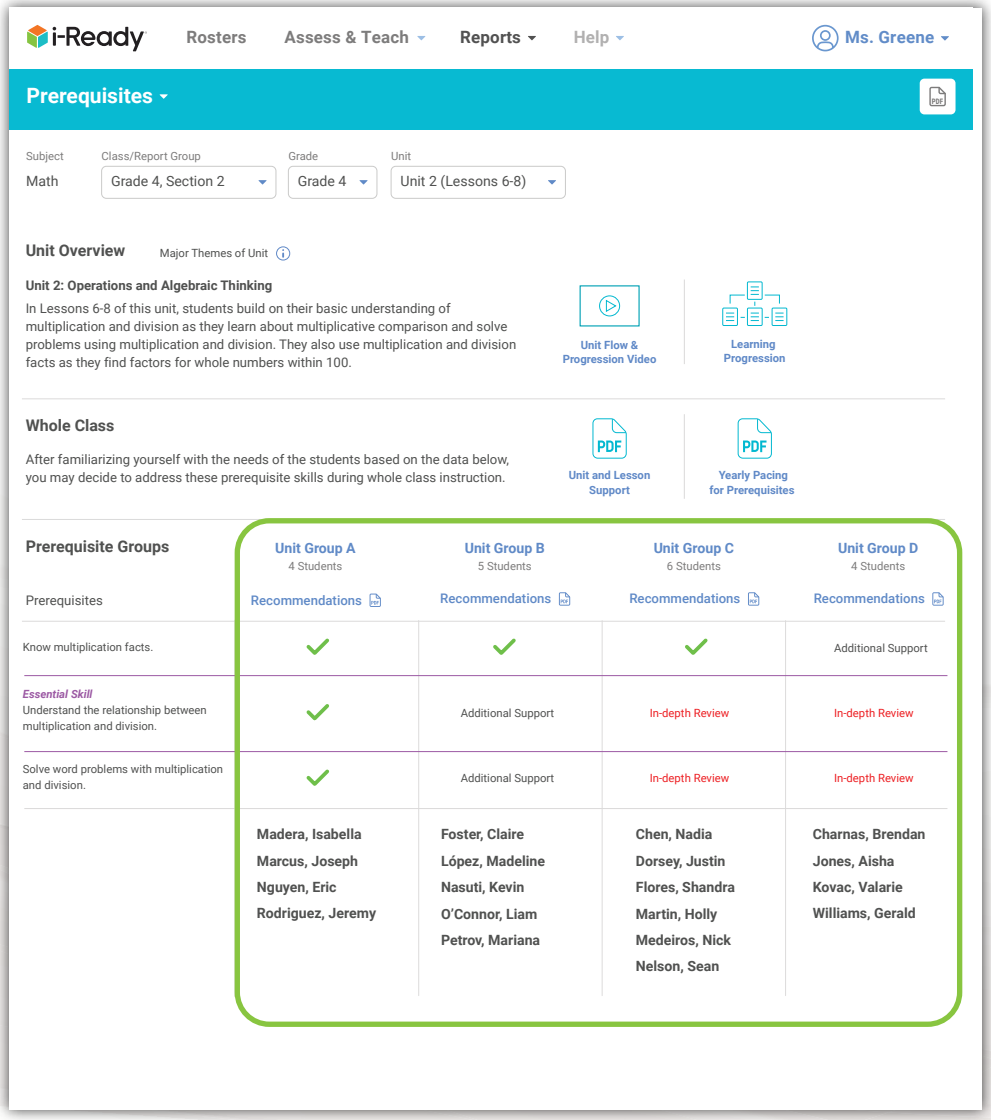
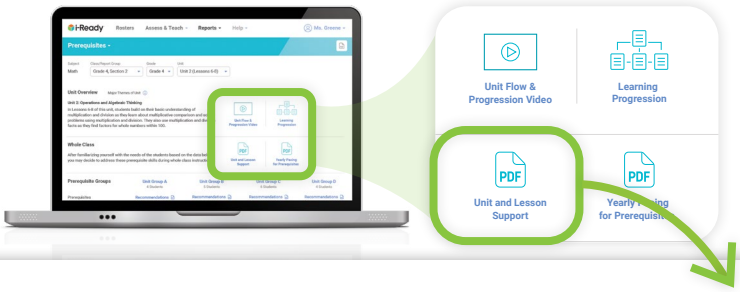


Figure 2: i-Ready Classroom Mathematics *Grade 4 Prerequisites Overview*

3 What Whole Class on-the-Spot Questions or Supports You Can You Use in Your Upcoming Lessons

It's a blessing and a curse when an entire class shares the same misconception or incomplete learning. On the one hand, they're all missing an important skill, and that has to have been frustrating for them. On the other hand, you've found a high-leverage opportunity to improve outcomes for all your students at the same time. Choosing the right time to tackle those concepts can make a dramatic difference for students—but when is that?

Enter the On-the-Spot Teaching Tips: suggestions for how to tweak your instruction during regular class time to provide support for the whole class on common prerequisite gaps. You can find these in the Unit and Lesson Support document on the Prerequisites report alongside the pacing outline for the unit. You may have looked at these in preparation for your first unit, but don't forget to check them out as you move to following units. Like the Unit Groups, the On-the-Spot Teaching Tips align with the concepts in each unit.



UNIT AND LESSON SUPPORT READY CLASSROOM MATHEMATICS

Grade 4, Unit 2

› *INSTRUCTIONAL SUPPORT | Lessons 6–8 continued*

Grade 3, Lesson 17 Solve One-Step Word Problems Using Multiplication and Division

- Word problems provide students with a way to make meaning of multiplication and division and the relationship between them.
- Focus on the relationship between multiplication and division. Models and drawings can help students determine how to represent a problem with an equation.
- Use this lesson as an opportunity for additional practice with multiplication facts.

◆ ON-THE-SPOT TEACHING TIPS FOR GRADE 4

- **Spend extended time using visual models.** Students may need more practice with visual models before moving into abstract strategies. It is okay if students want to model every problem, as this will support in-depth understanding. Students will want to leave visual models behind when they are ready.
- **Connect visual models and equations.** Support students by continually making connections between visual models and equations during class discussions and student work time. Over time, students will learn to visualize relationships mentally rather than relying on drawings.
- **Make sense of word problems.** Help students develop an internal dialogue in which they ask themselves, "How many of these are in that?" when they work with division problems. Doing so will help students determine which quantity is the dividend and which is the divisor and be able to estimate the result.

Figure 3: i-Ready Classroom Mathematics *Unit and Lesson Support*

4 How the Topics in a Unit Connect to Learning from Earlier Grades

Some of my most eye-opening professional development experiences were those in which our entire math department demonstrated a lesson on the same domain and strand starting with Grade 3 and going through Grade 8. The perspective I gained made me see my students' and coworkers' work with new appreciation and understanding. I still find it fascinating how early elementary school learning impacts students' work literally years later.

If you want to explore these kinds of connections, take a look at the Learning Progression infographic on each unit's Prerequisites report. It shows the progression of standards in prior grades that underly the relevant prerequisite skills for the unit you're teaching. This takes what could be a daunting bit of personal professional development and organizes it into timely, bite-sized chunks.

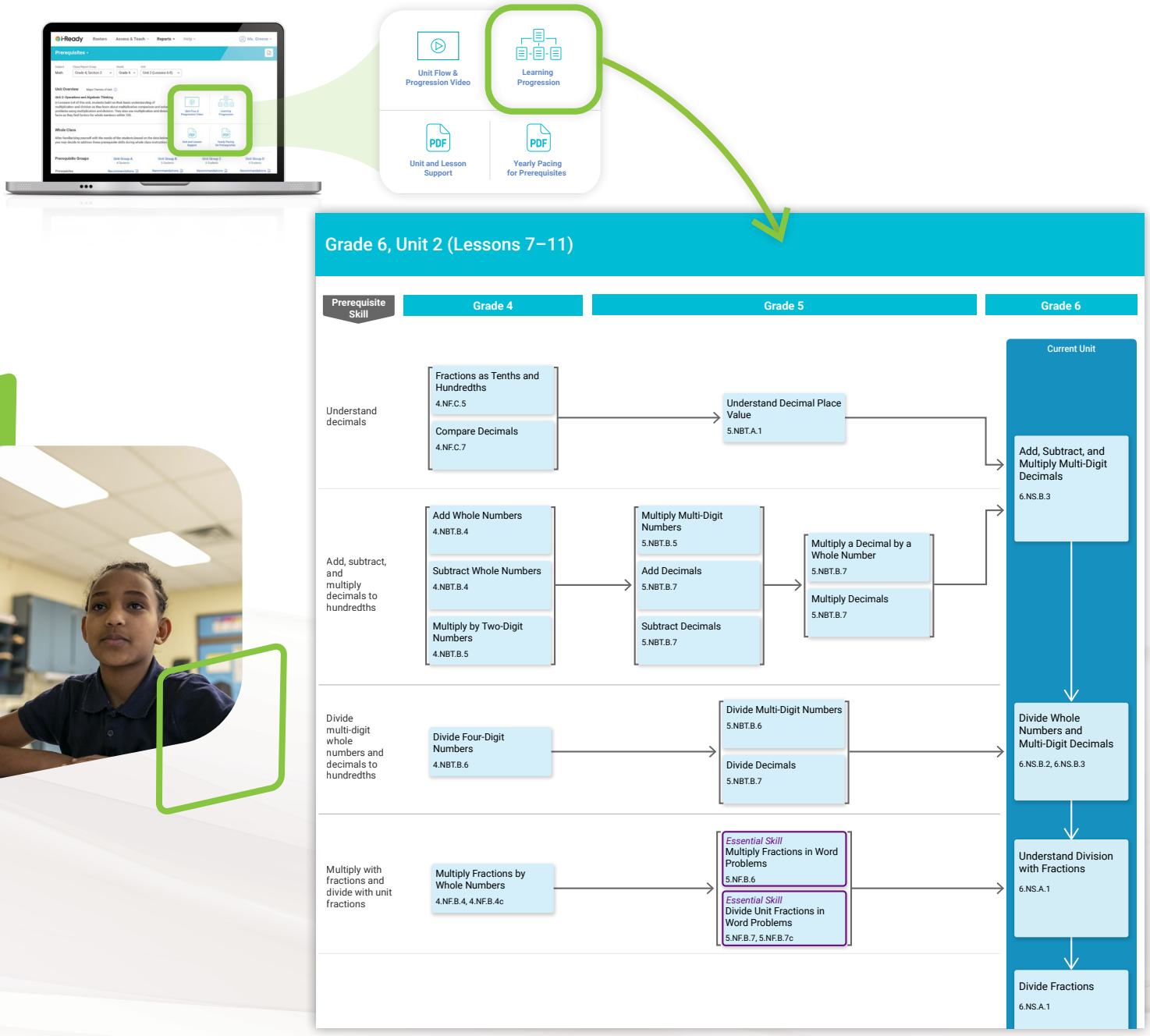


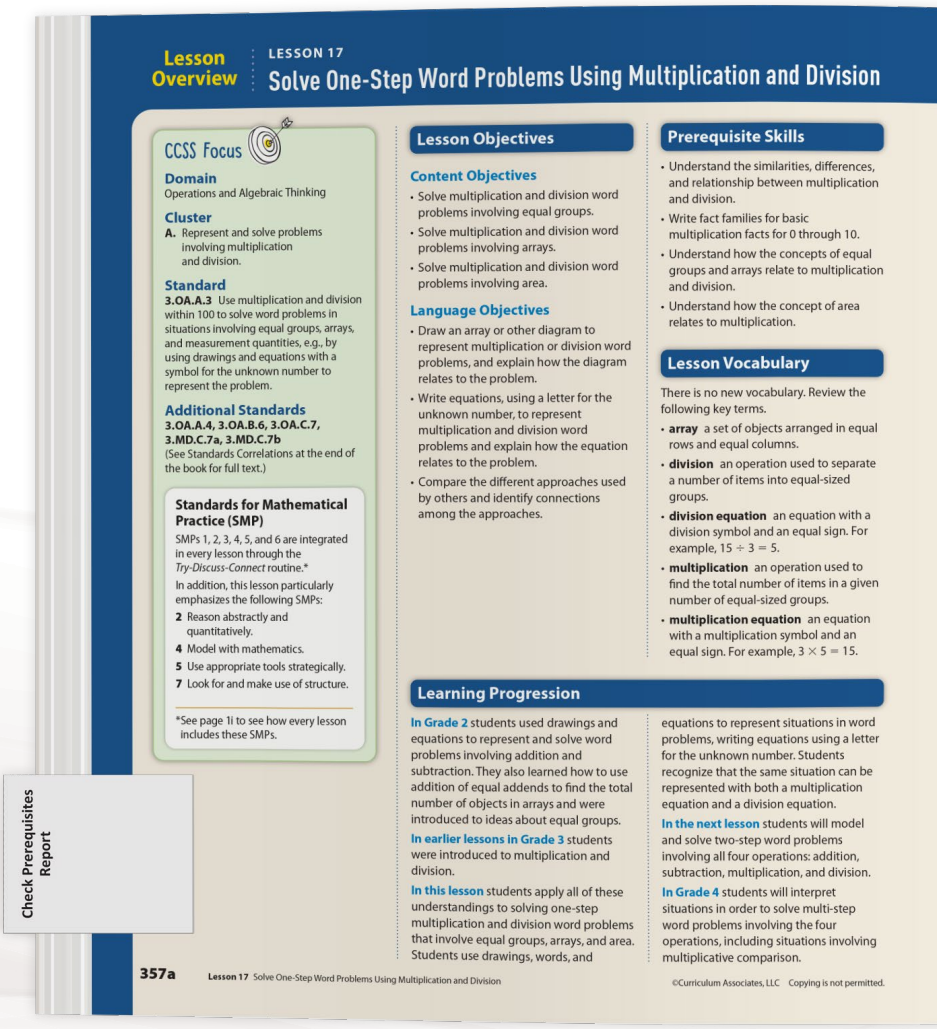
Figure 4: Learning Progression from i-Ready Classroom Mathematics *Prerequisites Report*

Whether it's long-term planning or knowing how to improve today's lesson, the Prerequisites report still has a lot to tell you—even now.

If you like what you read here, consider setting a calendar alert or adding a note to your planner so you remember to revisit the Prerequisites report at strategic times like planning meetings, small group reorganization deadlines, and the week before you start a new unit.

And if you *do* still have that beach-themed bulletin board up, maybe this is a good opportunity to remind students (and your administration) that the beach is a biome that experiences all four seasons, and we should look past its association with summer to fully appreciate it. Or to add a pumpkin to it. Your choice.

Use our printable tabs to help remind you when to check the Prerequisites report. Find the free template and other great resources on *i-Ready Classroom Central*.



Lesson Overview

LESSON 17

Solve One-Step Word Problems Using Multiplication and Division

CCSS Focus

Domain
Operations and Algebraic Thinking

Cluster
A. Represent and solve problems involving multiplication and division.

Standard
3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

Additional Standards
3.OA.A.4, 3.OA.B.6, 3.OA.C.7, 3.MD.C.7a, 3.MD.C.7b
(See Standards Correlations at the end of the book for full text.)

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.
4 Model with mathematics.
5 Use appropriate tools strategically.
7 Look for and make use of structure.

*See page 1i to see how every lesson includes these SMPs.

Lesson Objectives

Content Objectives
- Solve multiplication and division word problems involving equal groups.
- Solve multiplication and division word problems involving arrays.
- Solve multiplication and division word problems involving area.

Language Objectives
- Draw an array or other diagram to represent multiplication or division word problems, and explain how the diagram relates to the problem.
- Write equations, using a letter for the unknown number, to represent multiplication and division word problems and explain how the equation relates to the problem.
- Compare the different approaches used by others and identify connections among the approaches.

Prerequisite Skills
- Understand the similarities, differences, and relationship between multiplication and division.
- Write fact families for basic multiplication facts for 0 through 10.
- Understand how the concepts of equal groups and arrays relate to multiplication and division.
- Understand how the concept of area relates to multiplication.

Lesson Vocabulary
There is no new vocabulary. Review the following key terms.
- **array** a set of objects arranged in equal rows and equal columns.
- **division** an operation used to separate a number of items into equal-sized groups.
- **division equation** an equation with a division symbol and an equal sign. For example, $15 \div 3 = 5$.
- **multiplication** an operation used to find the total number of items in a given number of equal-sized groups.
- **multiplication equation** an equation with a multiplication symbol and an equal sign. For example, $3 \times 5 = 15$.

Learning Progression

In Grade 2 students used drawings and equations to represent and solve word problems involving addition and subtraction. They also learned how to use addition of equal addends to find the total number of objects in arrays and were introduced to ideas about equal groups.

In earlier lessons in Grade 3 students were introduced to multiplication and division.

In this lesson students apply all of these understandings to solving one-step multiplication and division word problems that involve equal groups, arrays, and area. Students use drawings, words, and equations to represent situations in word problems, writing equations using a letter for the unknown number. Students recognize that the same situation can be represented with both a multiplication equation and a division equation.

In the next lesson students will model and solve two-step word problems involving all four operations: addition, subtraction, multiplication, and division.

In Grade 4 students will interpret situations in order to solve multi-step word problems involving the four operations, including situations involving multiplicative comparison.

Check Prerequisites Report

357a Lesson 17 Solve One-Step Word Problems Using Multiplication and Division

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