Math in Practice A professional learning resource for teachers (see page 4)
“BEST PRACTICES DO NOT LIVE IN THE DESCRIPTIONS OF HOW TEACHERS TEACH BUT RATHER IN WHY THEY MAKE THE CHOICES THEY DO.”

—ILANA SEIDEL HORN, AUTHOR OF MOTIVATED
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The Ideas for Instruction and Assessment section contains lesson ideas, including suggested questions for sparking discussion.

Extensive teacher notes support instruction by addressing common misconceptions, differentiation options, and student thinking to look for.
FLEXIBLE, CLASSROOM-TESTED UNITS

CONTEXTS FOR LEARNING MATHEMATICS is a rigorous K-6 classroom resource that makes use of a workshop environment to bring the Standards for Mathematical Practice to life. Rich, authentic contexts provide a backdrop for fostering the use of mathematical models as thinking tools, tenacious problem solving, and the reading and writing of mathematical arguments and justifications to ensure the development of a positive growth mindset.

Flexibly designed, CFI.M units can be used to enhance your teaching, supplement your curriculum, or differentiate instruction. Each unit stands on its own, presenting a two-week sequence of interconnected investigations, games, and minilessons created to support the development of key topics such as place-value, subtraction, multiplication, or fractions.

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- **Read-Aloud Books and Posters** help set the stage for learning by bringing the rich contexts of each unit to life.

- **Digital Resources** include videos of classrooms in action, access to reproducibles, and overviews of lessons and program components.

All three **Overview Books** offer a deeper dive into the content, instructional strategies, and overall philosophy specific to that grade span.

Each **Resource Book** provides carefully designed strings of related problems that can be used daily for guided group work, intervention, enrichment, and minilessons throughout the year.
The focus of this unit is the development of multiplication, including automaticity with multiplication facts by focusing on relationships. The big idea underlying this strategy is the place value patterns that occur when multiplying by powers of 10. Several minilessons for multiplication are also included in the unit. These minilessons are designed to encourage the use of the ratio table and facilitate the development of more efficient grouping strategies based on ratios.

BIG IDEAS

1. The commutative property of multiplication
2. The distributive property of multiplication (over addition and subtraction)
3. The associative property of multiplication (over addition and subtraction)
4. Using repeated addition
5. Skip-counting
6. Doubling and halving
7. Using partia products
8. The place value patterns that occur when multiplying
9. Using a t-chart or ratio table
10. Overhead transparencies

Developing the Context

Tell students that their charts for the cost of turkey were so nice that you want them to make some more charts, this time for apples and carrots. Use the overhead transparencies of the apples and carrots charts to let students what you have in mind, as you did on Day Three. Do the first two problems (one pound and two pounds) with the whole class and then have students work in pairs to complete the charts (Appendixes D and E). Again, available should students need to use them as tools.

The recording sheets are designed as t-charts with missing numbers to encourage the use of the ratio table and grouping strategies based on ratios. The numbers on the ratio chart have been chosen carefully. The ratio of apples, $1.50, is more difficult than the $1.25 for the turkey, yet the $1.50 is the ten-times multiple, $15.00. The same is true for the rest of the chart; since 10 pounds is just double that amount—$16.00. Six pounds and 9 pounds can be calculated by adding or removing $1.60. The $1.10 remainder of the chart, since 10 pounds is just double that amount—$11.00. Six pounds and 9 pounds can be calculated by adding or removing $1.60. The $1.10 for the carrots is likely to be easier because of the ease of grouping tens (dimes), however, the cost per pound is often difficult for students to reason about. Do one problem at a time and record students’ strategies on a t-chart. This helps students to discern the connections with the work they completed on previous days.

Day Four Outline

1. Minilessons: A Multiplication String (10–15 minutes)
2. Developing the Context
3. Supporting the Investigation
4. Record student strategies on a t-chart.

The recording sheets are designed as t-charts with missing numbers to encourage the use of the ratio table and grouping strategies based on ratios. The numbers on the ratio chart have been chosen carefully. The ratio of apples, $1.50, is more difficult than the $1.25 for the turkey, yet the $1.50 is the ten-times multiple, $15.00. The same is true for the rest of the chart; since 10 pounds is just double that amount—$16.00. Six pounds and 9 pounds can be calculated by adding or removing $1.60. The $1.10 remainder of the chart, since 10 pounds is just double that amount—$11.00. Six pounds and 9 pounds can be calculated by adding or removing $1.60. The $1.10 for the carrots is likely to be easier because of the ease of grouping tens (dimes), however, the cost per pound is often difficult for students to reason about.

Each day of the unit is purposefully organized and opens with an outline of the day’s teaching moves and a list of the essential materials.

Carefully selected minilessons open the day with a quick, powerful look at key strategies and big ideas. Strings of related problems are used to support efficient computation, powerful talk, automation of the basic facts, and numeracy development.

Professional development is built in every unit through coaching notes, an exploration of the unit’s context, and a look at how the chosen models and numbers support student learning.

Sample pages shown are from The Big Dinner unit.

Learn more at ContextsForLearning.com
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I THINK THE MOST SERIOUS MISSING PIECE IN ALL THE MATH I OBSERVE IS THAT IT STOPS AT AN ANSWER.”

—STEVEN LEINWAND

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**Our work is driven by the desire to transform classrooms into communities of mathematicians.**

—Cathy Fosnot

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