

Third Grade
Math
with Confidence

Instructor Guide

KATE SNOW

WELL-TRAINED MIND PRESS

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Welcome to Third Grade Math with Confidence!

Third Grade Math with Confidence is a complete math curriculum that will give your child a solid foundation in math. It's **playful, hands-on, and fun** with thorough coverage of third-grade math skills:

- multiplication and division facts to 100
- adding and subtracting four-digit numbers
- multi-step word problems
- perimeter and area of rectangles
- adding and subtracting fractions
- geometry, money, elapsed time, and measurement

The incremental, confidence-building lessons will help your child develop a strong understanding of math, step by step. Daily review ensures she will fully master what she has learned in previous lessons. With this blend of **deep conceptual understanding and traditional skill practice**, you'll give your child a thorough third-grade math education.

Fun activities like Fraction Diner, the Chocolate Shop, Escape the Maze, and Division Crash will help your child develop a **positive attitude** toward math. You'll also find optional enrichment lessons at the end of each unit, with suggestions for delightful math picture books and real-world math activities that help your child appreciate the importance of math in real life.

Besides this Instructor Guide, *Third Grade Math with Confidence* also includes **two colorful, engaging Student Workbooks**. You'll find three workbook pages for each lesson. First, you'll use the Lesson Activities page to teach your child a new topic. Then, your child will complete the Practice and Review pages to practice the new concept and review previously-learned skills. Workbook Part A covers Units 1-8, and Workbook Part B covers Units 9-16.

Many parents worry about their ability to teach math as their children move beyond the primary years. If that's the case for you, don't worry: I promise to guide you every step of the way! *Third Grade Math with Confidence* is full of features that will help you teach math with confidence all year long:

- **Scripted, open-and-go lessons** help you clearly explain and teach new math concepts
- **Explanatory notes** help you understand more deeply how children learn math so you feel well-equipped to teach your child
- **Unit Wrap-ups and Checkpoints** at the end of each unit provide assessment and give you guidance on whether your child is ready to move on to the next unit

In the next section, you'll learn how the curriculum is organized and how to get your materials ready. Invest a little time reading this section now (and getting your Math Kit ready), and you'll be ready to teach math like a pro all year long.

Wishing you a joyful year of third grade math!
Kate Snow

Introduction

The Goals of *Third Grade Math with Confidence*

Third Grade Math with Confidence aims to help children become confident and capable math students, with a deep understanding of math concepts, proficiency and fluency with fundamental skills, and a positive attitude toward math.

Deep conceptual understanding

You'll focus on one main topic per unit so your child can build deep conceptual knowledge of the new material. (Educators call this a *mastery approach* to new content.) Each new lesson builds on the previous one so your child gradually develops thorough understanding.

Proficiency with fundamental skills

Children need lots of practice to master the basic skills necessary for proficiency in math. *Third Grade Math with Confidence* provides continual, ongoing review of these core skills so your child fully grasps them by the end of the year. (Educators call this a *spiral approach* to review, because children periodically revisit topics, just as the curve of a spiral returns to the same point on a circle.)

Positive attitude

The lessons in *Third Grade Math with Confidence* include games, pretend activities, and lots of hands-on learning so your child enjoys and even looks forward to math time. Optional enrichment lessons at the end of each unit (with a picture book suggestion and math extension activity) provide a break from the usual routine and help your child appreciate how math is used in real life.

What's New in Third Grade

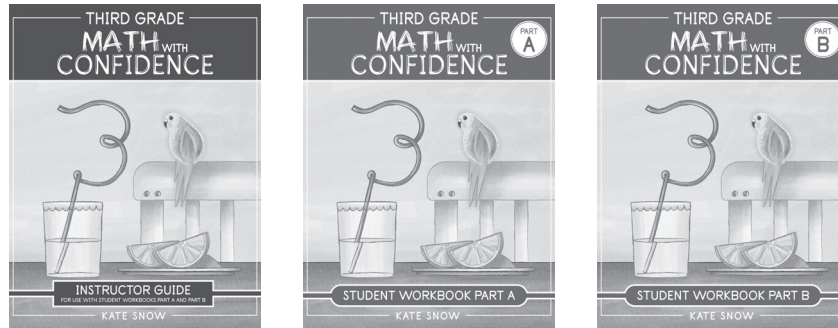
If you used earlier levels of *Math with Confidence*, you'll find two major changes in *Third Grade Math with Confidence*. First, the lessons are still grouped into units, but they are no longer grouped into weeks. This change gives you more flexibility with your schedule and allows the number of lessons in each unit to vary depending on what skills need to be covered. You'll now find an enrichment lesson (with math application activities and a picture book suggestion) at the end of each unit rather than each week. As in earlier levels, these lessons are optional.

Second, every regular lesson now includes a **Lesson Activities page in the workbook** (in addition to Practice and Review). These pages provide visual aids, practice exercises, and game boards all in one place to streamline your teaching. The Lesson Activities pages are designed for you to complete with your child during your hands-on teaching time. They are **not** meant for your child to complete independently.

Overview

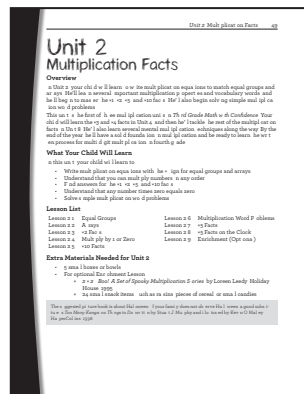
You'll need three books to teach *Third Grade Math with Confidence*. All three books are essential for the program.

- This Instructor Guide contains the scripted lesson plans for the entire year (Units 1-16).
- Workbook Part A contains the workbook pages for the first half of the year (Units 1-8).
- Workbook Part B contains the workbook pages for the second half of the year (Units 9-16).



Units

Third Grade Math with Confidence is organized into 16 units. Each unit focuses on developing thorough understanding of one main concept, such as multiplication, area and perimeter, or fractions. Units vary in length from 6 to 12 lessons, and there are a total of 144 lessons. The final lesson in each unit is an optional enrichment lesson.



The preview for each unit includes the following:

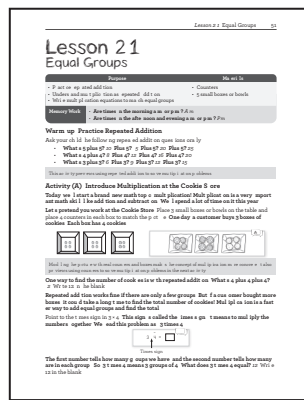
- **Overview.** A brief summary of what you'll teach your child.
- **What Your Child Will Learn.** A detailed list of objectives for the unit.
- **Lesson List.** The full list of lessons included in the unit.
- **Extra Materials.** This section gives you a heads-up if you need any extra materials for the unit. You'll sometimes need to supplement your regular math materials with a few everyday household items, such as markers, tape, or scissors. The optional enrichment lessons also usually require some extra materials.
- **Teaching Math with Confidence.** These notes help you understand more deeply how children learn math so that you're well-prepared to teach the new concepts.

Lessons

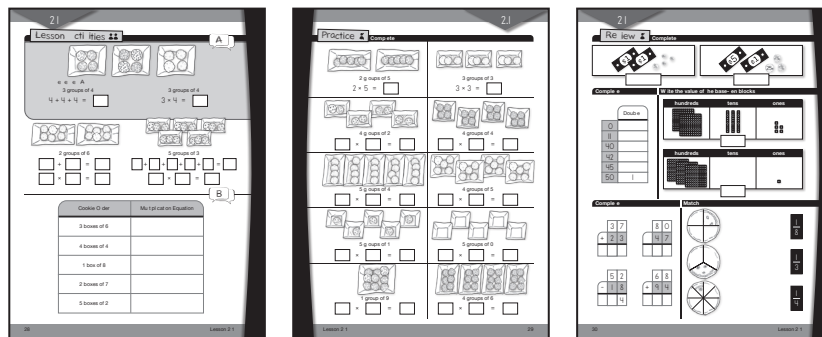
Each lesson includes several short and varied activities to keep your child engaged and attentive. You'll need both the Instructor Guide and Student Workbook for every lesson. Most pilot families spent an average of 25-35 minutes on each lesson, with 10-15 minutes of parent-led instruction and 15-20 minutes of independent work. However, this will vary depending on your teaching style and your child's learning style—and whether you have any toddlers interrupting you!

The Instructor Guide contains the scripted, open-and-go lesson plans. Within the Instructor Guide:

- **Bold text** indicates what you are to say.
- *Italic text* provides sample answers.
- Gray-highlighted text indicates explanatory notes.

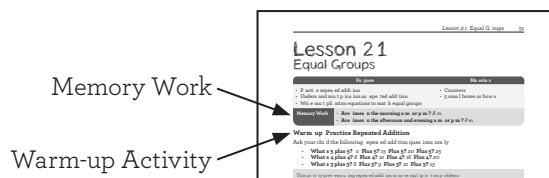


The Student Workbook includes three workbook pages for each lesson. First, you'll use the Lesson Activities page to teach your child the new concept or skill. Then, your child will complete the Practice and Review pages to reinforce what he learned in the lesson and review previously-learned skills. (Some Review pages will have the Lesson Activity page for the next Lesson on their reverse side. Hold on to those pages for use in the next lesson.)



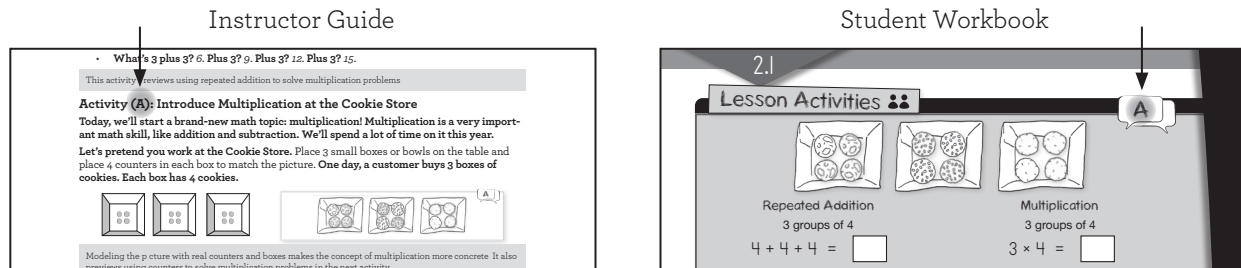
Memory work and warm-up activity with parent

Each lesson begins with a few memory work review questions and a quick warm-up activity. The memory work questions are listed at the top of each lesson. Reviewing a few questions daily helps your child master these important facts and vocabulary words. The warm-up activity eases your child into math time and helps start the lesson on a confident and positive note.



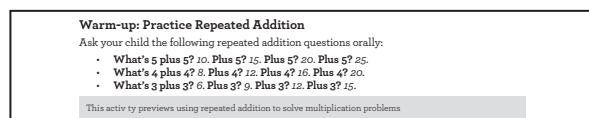
Lesson activities with parent

Next, you'll use the scripted lesson plan and Lesson Activities page to teach your child new concepts and skills. The Instructor Guide and Lesson Activities workbook pages are lettered so that it's easy to see how they align. Some activities are only in the Instructor Guide, without a matching section on the Lesson Activities page.



The activity headings and images in the Instructor Guide are lettered to help you find the matching activity in the Student Workbook.

Instructor Guide



Some activities in the Instructor Guide do not have a letter. These activities do not have a matching section in the Student Workbook, and they are completed either orally or with hands-on materials instead.

Independent practice

Last, your child will complete the Practice and Review workbook pages. Most third-graders will be able to complete these workbook pages independently, but some may need help reading and interpreting the directions.

Try to check the workbook pages as soon as your child finishes them. This immediate feedback shows your child that you value his work, and it helps prevent mistakes from becoming ingrained habits. You'll find answer keys for the Practice and Review pages at the end of each unit.

Enrichment Lessons (Optional)

Optional enrichment lessons are scheduled at the end of each unit. The Instructor Guide provides suggestions for a related picture book and enrichment activity, while the Student Workbook includes a two-page Unit Wrap-up for your child to complete.

Many parents and children find that the enrichment lessons are their favorite part of the program. (Siblings often enjoy participating in them, too!) However, these lessons are completely optional. You are free to choose the ones that sound the most fun for your family, or skip them entirely if your schedule is too full.

Picture book

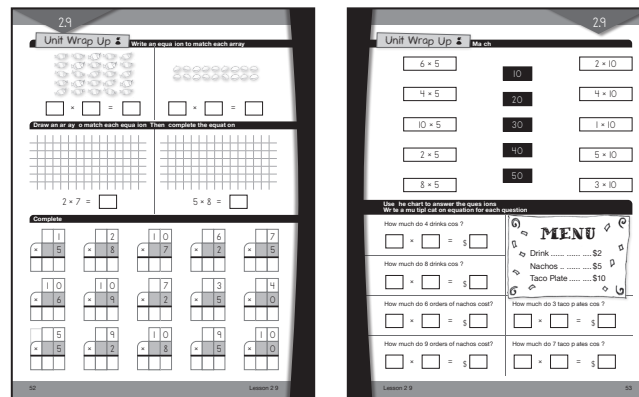
Most of the suggested books relate to the math studied in the unit, but some expose your child to other interesting math topics. **The picture books are not required.** You do not need to buy every book or track down every book in your library system. You can also use a book on a similar topic as a substitute.

Enrichment activity

The enrichment activities help your child understand and appreciate how math is used in everyday life. You'll find suggestions for art projects, real-life applications, and more to make math come alive for your child.

Unit Wrap-up (review and assessment)

The Unit Wrap-ups provide two pages of additional exercises for the concepts and skills your child learned in the unit. You can use them to casually review the unit, or you can use them as tests to assess your child's progress more formally. Either way, children and parents often find it very satisfying to see this concrete evidence of growth. If you live in a state where you're required to provide evidence of learning, you may want to save them for your child's portfolio.



Your child is not expected to fully master every skill from every unit before moving on to the next unit. See below for more on pacing and assessing your child's progress.

Pacing and Checkpoints

Just as children learn to crawl, walk, and talk at different times, they are developmentally ready to learn math at different times, too. *Third Grade Math with Confidence* provides lots of flexibility so your child can learn at her own pace. You know your child best, and you are always welcome to slow down or speed up the pace of the lessons based on your child's needs.

Is My Child Ready to Start *Third Grade Math with Confidence*?

Your child is ready to begin this program if he can:

- Count by 1s, 2s, 5s, and 10s to 1,000.
- Read, write, and compare 3-digit numbers.
- Understand place-value in 3-digit numbers.
- Know the addition and subtraction facts mostly by heart. (He should be able to recall the answers to most within 3 seconds or so.)
- Know how to use place-value strategies to solve mental math problems like $55 + 37$, $36 + 8$, $90 - 42$, or $74 - 6$.
- Know how to add and subtract two- and three-digit numbers with the standard written process. (You might know this method as “stack math” or “borrowing and carrying.”)

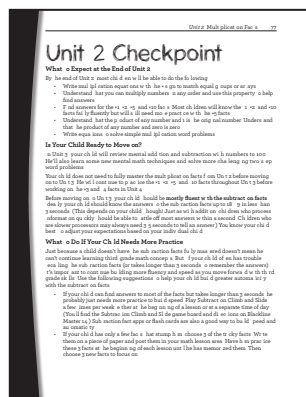
All of these skills are reviewed in the first few units, so don't worry if your child needs a refresher on a few of them. However, if your child is shaky on many of these skills, *Second Grade Math with Confidence* may be a better fit for her. Math skills build incrementally, and it will be difficult for your child to develop proficiency and confidence with the new third-grade skills if she has a weak foundation.

If your child is not fluent with the addition and subtraction facts but knows the rest of the skills listed above, she is probably ready to begin *Third Grade Math with Confidence*. Make sure to add 5 minutes of daily addition and subtraction facts practice to each lesson until your child becomes more fluent with the facts. *Addition Facts that Stick* and *Subtraction Facts That Stick* (also available from Well-Trained Mind Press) provide quick games to help your child master these essential skills.

How Do I Know Whether to Stick with a Lesson (or Unit) or Move On?

Most children need lots of exposure to a new concept or skill before they fully grasp it. Each lesson in *Third Grade Math with Confidence* gently builds on the previous one, but your child doesn't need to completely master every lesson before moving on to the next. The program includes many opportunities for practice and review before your child is expected to achieve full proficiency with a topic.

In general, continue teaching new lessons until you reach the end of a unit. At the end of each unit, you'll find a Checkpoint that provides guidance on whether your child is ready to move on to the next unit.



Each Checkpoint is divided into three parts:

- **What to Expect at the End of the Unit** This list of skills tells you what third graders typically are able to do at the end of each unit.
- **Is Your Child Ready to Move On?** This section tells you what your child needs to have mastered before moving on to the next unit.
- **What to Do if Your Child Needs More Practice** If your child isn't quite ready to move on, this section gives you options for reviewing and practicing the skills your child needs to master before the next unit. (This section is omitted if no specific skills are necessary for the next unit.)

For most units, your child is not expected to fully master all of the material from the current unit before moving on. For example, in Unit 2, your child will learn the $\times 2$, $\times 5$, and $\times 10$ multiplication facts. He'll continue to practice multiplication as he studies mental addition and subtraction in Unit 3, but he does not need to be completely fluent with these multiplication facts before starting the new unit.

Scheduling

Third Grade Math with Confidence includes 144 lessons. 128 are regular lessons, and 16 are optional enrichment lessons. You're welcome to adjust the number of lessons you teach per week to best fit your family's schedule. Some families prefer to teach math 5 days per week, while others prefer to teach math 4 days per week and leave one day open for co-ops, errands, or field trips.

Use the following guidelines to plan your year:

- If you teach 4 lessons per week and teach all the enrichment lessons, *Third Grade Math with Confidence* will take you 36 weeks.
- If you teach 4 lessons per week and skip the enrichment lessons, *Third Grade Math with Confidence* will take you 32 weeks.
- If you teach 5 lessons per week and teach all the enrichment lessons, *Third Grade Math with Confidence* will take you 29 weeks.
- If you teach 5 lessons per week and skip the enrichment lessons, *Third Grade Math with Confidence* will take you 26 weeks.

Use this list as a rough guide to planning your year, but don't set it in stone. You'll generally be able to cover one lesson per day, but you may occasionally find that you want to split a lesson over two days.

How Can I Adjust the Lessons to Best Fit My Child and My Schedule?

Children vary tremendously in how quickly they learn new math concepts and skills. Use these suggestions to adjust the lessons to best fit your child's needs and your family's schedule.

- If your student is a fast processor or picks up math skills quickly, you may be able to **condense lessons** and teach more than one lesson in one day. If so, teach the concepts that are new to your child. Then, have your child complete a selection of exercises on the corresponding Practice and Review pages.
- If your child has a slower processing speed or takes a while to grasp math concepts and skills, some lessons may take longer than you would like (or longer than your child is able to stay engaged and attentive). If that's the case, **set a timer** for your desired lesson length, stop when the timer goes off, and continue the next day where you left off. In the elementary years, you are setting a foundation for a lifetime of proficiency and confidence in math. It's okay not to rush through these essential skills.
- If your child doesn't have the stamina to complete the Practice and Review pages at the same time, **split the lesson into two parts**. Do the Lesson Activities page and Practice page during one part of the day, and then have your child complete the Review page at a different time of the day.
- **Adjust your use of manipulatives** (like base-ten blocks, play money, or fraction circles) to fit your child's learning style. If your child readily understands a skill and doesn't enjoy using manipulatives, allow her to solve the problems without them. If your child learns best with a lot of visual and hands-on reinforcement, allow her to use manipulatives to model problems as much as she needs. Cut out some of the practice problems if the extra manipulative work makes the exercises take too long.
- Games provide a fun way to practice math skills, and they can be a great way to bond with your child. However, if your child doesn't enjoy games, or you don't have time for a game on a particular day, **choose a few problems from the game** for your child to solve instead. That way, he'll still get the extra practice that the game was meant to provide.
- Don't worry if you have a bad day every once in a while. Extra tiredness, oncoming illness, or just plain grumpiness can make for a less-than-cheerful math lesson. It's perfectly normal for children to occasionally get frustrated, and it doesn't mean that you're a bad math teacher or need to change the way you teach. If emotions rise during math, just **cut the lesson short and resume later** in the day or the next day. Most of the time, you'll find that the next day goes much better.

What You'll Need

You'll use simple household items to make math hands-on, concrete, and fun in *Third Grade Math with Confidence*. Most lessons only require materials from your Math Kit, but you'll also sometimes use everyday objects to enhance the lessons.

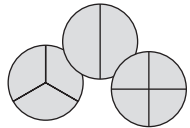
How to Create Your Math Kit

You'll use materials from your Math Kit in most lessons. Stick the following materials in a box or basket so they're always ready to go, and keep them handy when you're teaching.

- Base-ten blocks.** Base-ten blocks provide a concrete way for children to understand place value. Each block represents a different value in our number system (ones, tens, hundreds, or thousands). Look for a set with at least 50 units, 20 rods, 10 flats, and 1 large cube, either online or at school supply stores. You can also photocopy and color Blackline Master 12 (page 571) instead, but children usually find real blocks easier to maneuver.



Base-ten blocks
- 50 small counters.** Any type of small object (such as plastic tiles, Legos, blocks, plastic bears, coins, or dried beans) is fine. You can also use the units from your set of base-ten blocks. You'll occasionally need 2 colors, so make sure at least 10 of the counters are a different color than the rest.
- Coins (20 pennies, 20 nickels, 20 dimes, 10 quarters).** You can use toy coins, but children often enjoy using real coins more. (If you live outside the U.S., you can use your local currency's coins instead. See the materials note on page 10 for more details.)
- Play money (20 each of one-dollar bills, ten-dollar bills, and hundred-dollar bills; 10 each of five-dollar bills, twenty-dollar bills, and thousand-dollar bills).** Play money from a toy cash register or board game works well, or you can copy and cut out the play money on Blackline Master 13.
- Clock with hands.** Your clock should have clear, easy-to-read numbers, tick marks along the edge for each minute, and hands your child can easily move. If your family's clocks don't meet these criteria, you may want to buy an inexpensive plastic geared teaching clock.
- Fraction circles.** Either plastic or wood is fine, and you can find them online or at school supply stores. If you don't have access to fraction circles, photocopy and color Blackline Master 7 (page 551) instead.


- 1-foot (or 30-centimeter) ruler.** You will teach your child to measure with both inches and centimeters this year, so make sure your ruler is labeled with both units.
- 2 packs of playing cards and 2 dice.** You'll use playing cards or dice for many of the games. Any standard 52-card decks and regular, six-sided dice will work fine.
- Blank paper.** Any kind of paper is fine, including plain copy paper.
- Pencils.** Keep sharp pencils on hand for lessons and workbook pages.
- 1 page protector and 1 dry erase marker.** Place the dot array (Blackline Master 5) in a plastic page protector so you can write on it with a dry-erase marker.


- Binder with about 10 plastic page protectors.** (Recommended, but not required.) You'll use Blackline Masters often throughout the book. Some are for modeling important concepts, while others provide helpful reference information. Many pilot-test families found it easiest to keep track of these pages in plastic page protectors in a binder. Storing the pages in a binder also makes it easy for your child to refer to them as he completes the Practice and Review pages.



See page 531 for the full guide to the Blackline Masters. You may want to copy or print the Blackline Masters now so that you don't have to worry about it when you reach the corresponding lessons. **If you prefer to print the Blackline Masters rather than copy them from the book, you can download digital copies at welltrainedmind.com/mwc.**



You will occasionally need to save items for future lessons. This symbol will alert you if you need to save anything.

Other Supplies Needed

You'll only need your Math Kit for most lessons, but occasionally you'll need a few other common household items. You'll find these items listed in three different places in the curriculum to make sure you always know what you need:

- The preview for each unit lists all extra household items needed.
- The top of each lesson lists all supplies you'll need to teach that lesson. These lists include items from your Math Kit as well as extra household items. (Note that many lessons require paper, slips of paper, pencils, or a dry-erase marker. To save space, they are not listed unless you need more than 3 slips of paper or pieces of paper.)
- You'll find the complete list of household items needed throughout the year on pages 529-530.

Don't feel you have to gather every extra household item now. Most are common things like markers, tape, or scissors, so you can grab them right before you begin the lesson.

Note for Families Living Outside the U.S.

Math with Confidence uses American money and the U.S. customary measurement system, but it's designed to be easy to adapt to use anywhere in the world. Here are some tips for adapting the program to wherever your family lives.

- When you teach lessons with money, change the language in the lessons to match whatever currency you use. Use your country's coins in place of the American coins. For paper bills, use money from your country's currency, play money from a board game or a toy cash register, or the generic bills on Blackline Master 13. Write your country's currency symbol in place of the dollar sign.
- The measurement lessons cover both metric units (such as meters, grams, liters) and U.S. customary units (such as feet, pounds, cups). Even if you use the metric system, do teach these lessons. They often include important foundational measurement skills, and they'll help your child understand measurement concepts more deeply.

Helpful Resources

You'll find an appendix of helpful resources at the back of this book:

- Complete Picture Book List
- Scope and Sequence
- Complete Memory Work List
- Materials List
- Blackline Masters