

Reading About Math: Books for Lower Elementary Grades

Nothing says that math has to be just by the numbers! Experts suggest that reading books featuring math can give students context for mathematical concepts, help them relate math to their lives and make math fun. There are books at all reading levels that can engage children with math vocabulary, number and pattern recognition, counting, measuring, estimating, problem-solving and more. Share some of these titles with your students and their families:

A Cake All For Me! by Karen Magnuson Beil (Holiday House). Piggy is baking a cake, but first he must count out and measure all of the ingredients. When it's time to eat, Piggy has to decide whether to eat the cake by himself or to share with friends. This book includes a recipe and measurement information.

Cluck O'Clock by Kes Gray (Holiday House). At 4 o'clock in the morning, Colin the Rooster crows loudly to wake up everyone on the farm. Young readers will have fun telling time as these chickens go about their day—including when they sit in the tree at 12 o'clock and race home at 7!

The Action of Subtraction by Brian P. Cleary (Millbrook Press). Kids learn about subtraction, the "action that will make your total less," in this rhyming book. Clever examples, such as a kitten scaring angry bulldogs, illustrate the concepts.

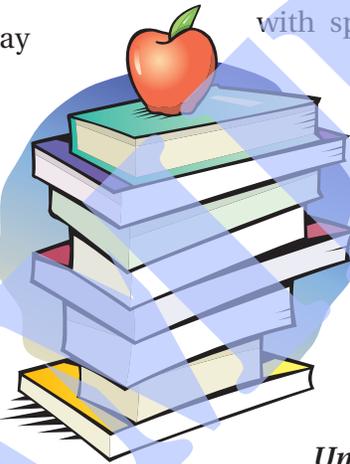
Missing Math: A Number Mystery by Loreen Leedy (Marshall Cavendish Children). When all of the numbers in town go missing, no one knows what to do! Nothing has a price tag, the telephones have no numbers to dial and there are no quantities in the cookbooks. Without numbers, the town cannot function! Will they find where their numbers went?

Up Above and Down Below by Sue Redding (Chronicle Books). As actors perform above stage, the crew works below. Birds and monkeys play in the jungle trees while beneath them bugs and other animals live on the ground. This book's bright graphics and repeated motifs engage young children with spatial directions.

Lots and Lots of Zebra Stripes: Patterns in Nature by Stephen R. Swinburne (Boyd's Mills Press). Swinburne's vivid close-up photographs beautifully illustrate the text's simple explanation of patterns—lines and shapes that repeat—and how to recognize them all around us.

Underwater Counting: Even Numbers by Jerry Pallotta (Charlesbridge). Young readers will learn to count from zero to 50 by twos while diving in to fun facts about all kinds of fish in this vividly illustrated book. Be sure to check out the companion book, *Ocean Counting: Odd Numbers* as well!

Shapes, Shapes, Shapes by Tana Hoban (Greenwillow Books). Hoban's color photographs—a riverboat deck rimmed with rings, bright balls on a sidewalk vendor's stand, towels and bandanas hung on a line to dry—let children find and identify shapes in real-world settings.



Let's do the Math

Persistence: The key to math success

It's sometimes easier to give up on a tough job than it is to push through and complete it. However, giving up is not going to get your child very far in life—or in math! Successful students don't quit when math gets difficult. They know that they must persist until they have solved the problem. Here are six ways to help your child develop the persistence he needs to succeed:

1 Boost self-confidence

Studies show that bright children who think poorly of themselves may do poorly in school. But average children who believe in themselves can excel. Show your child that you believe in him by saying things like “That math homework looks challenging, but I know you'll figure it out.” Your confidence in him will help him believe that he can succeed.

2 Notice progress

Praise your child for working hard—not just for the final result. Say, “You're really coming along with your math homework,” and “That wasn't easy, but you worked until you finished!” Your praise and acknowledgement will encourage your child to keep going!

3 Turn mistakes into lessons

Nearly everything children ever learn, they learn through trial and error. They try something, figure out if they did wrong, try again, do a little better and try again ... until they get it right. That's how your child learned to talk, walk, write his name, and it's how he will learn math, too!

So when your child makes a mistake on a math test, help him see what he can learn from the experience. Ask, “What might you do differently next time?” “What did you learn that can help you in the future?”

4 Be a role model

Let your child see you persist when things aren't easy. Don't put off challenging tasks at home or work. Instead, talk to your child about how you are going to accomplish them. Say things like, “Today, I am going to work until I get this project finished.” Then keep your word and actually finish it!

5 Encourage goal setting

Working towards something that he really wants will help your child persevere past any obstacles. To help him set achievable goals:

- **Ask him about his goals** for math. *I want to score above 85% on every math test this quarter.*
- **Ask him what he would need** to do to achieve that goal. *I should spend more time on my math homework and ask the teacher for extra help.*
- **Write down the steps** your child plans to follow. *I will spend 20 minutes every night on math and I will stay after school once a week for extra help.*

6 Celebrate success

When your child finishes a challenging task, do something special to celebrate. Go to the park, play a fun game or cook a special dinner together. Remind your child that his persistence was the key to his success!



Use Teamwork to Plan Your Math Event

Planning a successful math event can be a big job, but if you make it a team effort, it can also give you an opportunity to put the power of school-parent-community collaboration to work. Here are some ideas to guide you to success:

- **Recruit a team to plan your event.** Invite math and science teachers, students, administrators, parents and community leaders. You'll make the task easier for everyone and build strong relationships if you include all stakeholders.
- **Host a kick-off event for the planning team.** Schedule it at a time when every member can participate. To make your first meeting a success:
 - » Serve refreshments and conduct a get-acquainted activity.
 - » Show the *Let's do the Math: Ways You Can Build Your Child's Math Skills* PowerPoint® presentation included with this resource kit.
 - » Identify a chairperson (or co-chairpersons) for the team.
 - » Discuss and determine the primary goal of your math event. Do you want to highlight your school's math instruction methods, explain new standards in math and science, promote a positive attitude and excitement about math or encourage family involvement with math?
 - » Brainstorm some general ideas about the event.
 - » Set dates for subsequent meetings to work out the details. The difference between good and great is always in the details!
- **Decide on date, time and location.**

When should the event take place? Consider aligning your event with a math observance, such as:

 - » Metric Week (October)
 - » Even Day (Date with three consecutive even numbers: 10/12/14)
 - » Odd Day (Date with three consecutive odd numbers: 11/13/15)
 - » Pi Day (March)
 - » World Maths Day (March)
 - » Women in Math (March)
 - » Math Awareness Month (April)



Math on the Job

Parents, educators, community members and business leaders—we are all stakeholders in the academic success of our nation's students. A solid foundation in math is a critical element of that success. The latest PISA findings show that U.S. students' math performance ranks well below that of other nations (www.oecd.org/pisa/keyfindings/PISA-2012-results-snapshot-Volume-I-ENG.pdf). In light of such sobering statistics, the importance of having strong math skills cannot be overemphasized to students and parents. At your next math event, highlight the vital role of math in all walks of life. Bring in speakers representing a variety of occupations to talk about how they use math in their jobs.

Recruit speakers

- **Send home flyers**, post on your school website and send emails to parents explaining your proposed event. Ask for volunteers to sign up to talk about how they use math in their jobs. Include a list of jobs such as: dentist, cashier, seamstress, graphic artist, mechanic, realtor, computer technician, etc. (Leave space to fill in "other.") Don't forget to include the greatest mathematicians of all—homemaker moms and dads!
- **Reach out to the business community.** Local businesses are always willing to support schools in their community. And most workers are glad to talk about their jobs.



Hold a planning session

1. **Schedule a time** for participants to meet and discuss the agenda for the math event.
2. **Play the PowerPoint® presentation** included with this kit. Reinforce the message that everyone's contribution to the math event is important and very much appreciated.
3. **Hold a brainstorming session** to help participants plan their presentations. Have guidelines available, especially for those who cannot attend the meeting.
4. **Establish a schedule for the speakers.** How long will each one speak? Will they need special equipment? Will they have handouts? Will they be willing to share contact information?

Start the event

1. **Thank everyone for attending** and play the PowerPoint® presentation included with this kit.
2. **Introduce and thank your special guest speakers** as they prepare to share their experiences with math. Allow time for students and parents to ask questions following each presentation.

Continue learning

- **Have students** write a short report about what they learned. Did any speaker change their attitudes about math? Did they hear anything that helped them with a career goal?
- **Encourage students** to continue learning about real-world math in a field that interests them.