



Family Math: Doing Math Together!

by **Stuart J. Murphy**

What a thrill it was to walk into a huge gymnasium filled with math games and activities - all of them created by students and all of them based on my books! Even more exciting was to hear the students talk about their projects, showing me how they worked and explaining the rules.

I had spent the day working with "junior-K" through fifth graders at the Lincoln Elementary School in Wauwatosa, Wisconsin. And although there were plenty of hints about the surprise to come that evening at a Family Math Night, I wasn't prepared for the full impact of the children's accomplishments.

The students had such a strong grasp of math, they were able to apply mathematical concepts to new situations. And when their parents - more than 300 of them — joined us, the kids showed them how to play.

As I travel across the country giving presentations, I find myself in large schools and small schools, new schools and old schools, schools in urban, suburban, and rural locations, and, schools of every possible socio-economic description. I am often struck by the many differences that exist in the educational environments. But no matter what the differences, I have found that parents everywhere want to help their kids be better at math. And they are willing to attend a Family Math Night to find out how.



Family Math Night

The message is simple. We all know that kids who are read to become better readers. The same is true of math. When parents show an interest in math and make it part of their everyday family life—if they do math TOGETHER with their children—kids become more successful at math.

I begin each Family Math Night with a presentation directed to parents. I talk about the importance of math, and of making sure their children are comfortable and confident in their math abilities. I demonstrate some of the activities that I do in class. And I suggest ways in which parents, as well as other family members, can help children understand math concepts and see how math is a part of almost everything they do.

No two Family Math Nights are ever quite the same:

At Fox Hill Elementary School in Indianapolis, Indiana, teachers created games and activities and then showed students how they worked.

It wasn't long before parents joined in the fun.

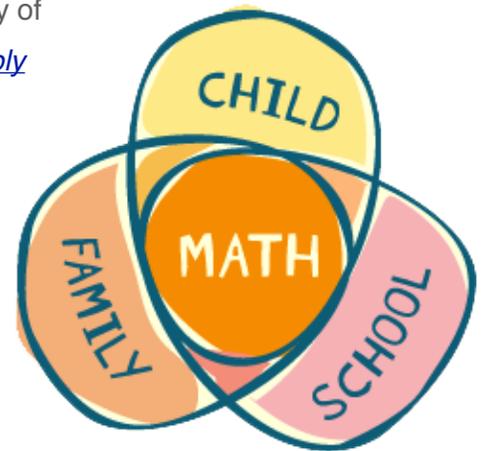
In Anniston, Alabama, I visited all the second grade classes in five elementary schools over a three-day period. The students had read [*Lemonade for Sale*](#), a **MathStart** book on graphing and they were ready for me with lots of questions. They were also excited about bringing their parents and grandparents to a Family Math Night. In fact, so many people showed up that teachers had to unfold additional chairs to accommodate the crowd. It was standing room only on a rainy weekday evening...all to hear about math!

In Houston, Texas, students performed skits based on my books. One group danced [*The Bug Dance*](#). Another team was dressed in red, yellow, and blue T-shirts and continually reassembled themselves in the various patterns shown in [*Beep Beep, Vroom Vroom!*](#) On the



walls leading to the auditorium were posters displaying the probability of different things happening at school, the models coming from [Probably Pistachio](#).

I continually encourage parents to communicate about math with their children. I want kids talking about math, reading about math, writing about math, and sketching about math. The more they learn to think mathematically, the easier and more natural math becomes for them.



We need math to do just about everything. When parents and kids approach math with a shared sense of adventure and challenge, everybody wins.

Adventures in Change...

While driving down the tollway, talk about how much the next toll is likely to be and ask children prepare the money. How many quarters? Nickels? Dimes? How many dimes and nickels do you need to equal a quarter?

After ordering lunch at a fast food restaurant, have each family member estimate the total bill. Whoever comes closest gets an extra order of fries (or a fruit cup!).

Ask kids to estimate the total amount of money in the family change bowl - and then add it up to find the actual amount.

Food Fun & Fractions...

Read [Give Me Half!](#) with two children. Then, using a candy bar (or some other easily divisible treat), ask one of the children to cut it in half, explaining that the other child will get to pick her half first. What seems fair? Why?

After reading [Jump, Kangaroo, Jump!](#), work together to split a bag of peanuts equally between family members. How many people are there? How many peanuts did each get? What fraction of the total number of peanuts does each family member have?

Games for Chores...

Have kids help fold the family laundry. If there are eight pairs of socks, how many are there in all? How many if one sock is missing? Which number is an even number? An odd number? Are both sides of the tee shirt the same size and shape? Are they symmetrical?

Set the table together. Does each person have the same number of utensils and plates? Who is missing what? How many forks, spoons, and knives in all?

Story Time...

Together, read books that weave math ideas into the storylines, and then extend those ideas into situations in the child's own life. For example, read [Racing Around](#) and then try estimating the perimeter of the local playground. How close is the estimate?

After reading [Sluggers' Car Wash](#) or [Lemonade for Sale](#), help your kids to set up a little business of their own. How much should they charge? What is the cost of supplies? How much profit will they make if you have twenty customers?

Read [Get Up and Go!](#) and then create a timelines to tell a story about a favorite day, a vacation, or a birthday party.

The Art of Math...

Since children are natural visual learners, sketching is a very effective way to teach math concepts. After reading [Let's Fly a Kite](#), ask kids to make drawings of objects that have lines of symmetry.

They can sketch a landscape. Is the tree twice as big as the house?

Even very little kids can draw patterns. What comes next? After that?

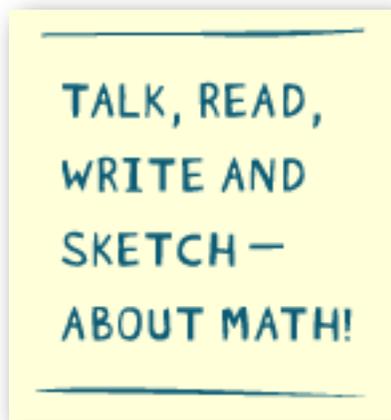


Math in the News...

Pick out a newspaper article that contains some statistics that interest your child -weather, sports scores, etc.— and then talk about them. What was highest? Lowest? Why? Make a bar graph.

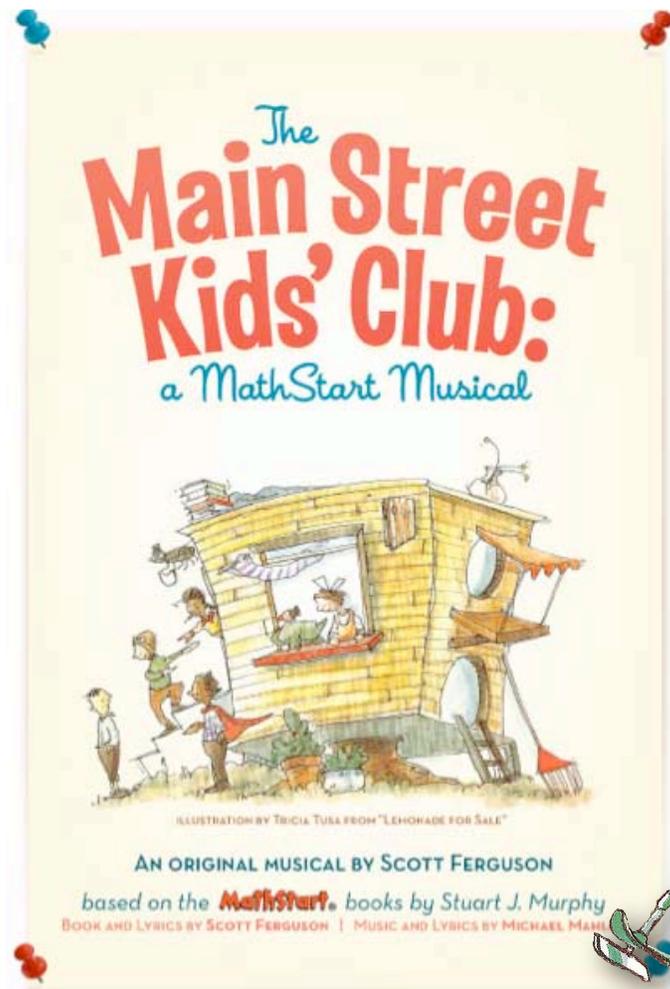
Math in Maps...

Ask your child to write directions from school to your house, making sure to include approximate distances. Then, the child can draw a map based on these directions. Include the park and a friend's house on the map. Who lives closer to the playground?



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