



Making Kids Good in Math

by Greg Tang

Greg Tang grew up in Ithaca, NY with his three sisters. After college and graduate school at Harvard, he worked for Pfizer and then founded Technovations, a systems and design company. Most recently, Greg has been writing picture books for Scholastic, textbooks for Houghton Mifflin Harcourt, and is working to develop his own math curriculum.

I've often been introduced as "someone who makes math fun." But that's actually not my mission at all. My goal is to make kids good in math! When kids are good at something, that's when they have fun. So while I hope kids like my books, I really hope they learn the important strategies that will someday make them good at math.

The Grapes of Math, *Math For All Seasons*, *Math Appeal*, and *Math Potatoes* were my first four books. Together they encourage kids to move first from counting to skip counting, and then from skip counting to multiplying. When kids count they are processing numbers concretely in groups of one rather than abstractly in more efficient groups. I tell teachers that in math, counting is the root of all evil. Teach kids how *not* to count and they just might become good in math! A second related point is that while there are many ways to solve a problem, not all of them are good. I try to show kids not just efficient strategies, but ones that can be generalized to work with harder problems as well.

The next book I wrote was *The Best of Times*. My goal was to teach kids their multiplication tables without memorizing. Kids need to *know* their multiplication facts, the question is how best to teach them. The traditional route is rote memorization, a brute force approach that develops harmful, concrete thinking skills and limits kids to knowing only the facts they have memorized. This approach kills kids' interest in math and more importantly, doesn't help kids learn what they really need to learn – factors not facts. I wrote this book to give kids a way of learning their times tables that will work not just with small single digit numbers but with bigger numbers as well. It

teaches facts and factors and develops abstract, algebraic thinking skills that are the key to being good in math.

Mathterpieces is probably my favorite book and it combines math with art history. I like this book because it teaches on many different levels and has important lessons for students of all ages. It gives younger children important practice composing and decomposing numbers, the secret to learning basic addition facts. For older kids, it teaches *systematic* problem solving, an often overlooked skill that kids absolutely need to have. For high school and college students it introduces combinations and permutations, an important topic in probability and statistics. For all students, it teaches a little art history by introducing famous masterpieces and the artists who painted them. All in all, I think there's a lot more in this book than meets the eye. Pun intended!

My two most recent books are *Math Fables* and its sequel *Math Fables Too*. I wrote these books to teach kids to count, and more importantly, to teach them to see numbers efficiently from the earliest age. In both books, I encourage kids to see numbers in groups while at the same time learning to count. Why teach just counting when kids can learn counting and grouping at the same time? And while we're at it, why not throw in a few lessons in life as well? I hope my fables are "lessons that count."

Most recently, I've been working on textbooks for Houghton Mifflin Harcourt and on my own supplemental program that teaches the critical skills and strategies kids need to enjoy math. If I'm successful, some day all kids will love math. Not just because it's fun, because they're good at it.

MAY

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p style="text-align: center;"><i>Math Potatoes: Mind-stretching Brain Food</i> by Greg Tang</p> <p>Rhyming verse and visual tricks present suggestions on how to most efficiently group numbers to arrive at solutions to mathematical equations.</p> </div>					1	2
3	4	5 Cinco de Mayo	6	7	8	9
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">IRA's 54th Annual Convention - <i>Beyond the Horizon</i> North Central: Minneapolis Convention Center, Minneapolis, Minnesota - May 3-7, 2009</p> </div>						* William Pène Du Bois * J. M. Barrie
Mavis Jukes	Beverly Butler		* Leo Lionni	Nonny Hogrogian	* Milton Meltzer	
10 Mother's Day	11 Children's Book Week 11th - 17th	12	13	14	15	16
* Christopher Paul Curtis			Norma Klein	* George Selden	* L. Frank Baum	* Margaret Rey
17	18	19	20	21	22	23
Gary Paulsen	* Lillian Hoban	Pauline Clarke	Mary Pope Osborne Carol Carrick		* Arnold Lobel	* Margaret Wise Brown * Scott O'Dell
24	25 Memorial Day	26	27	28	29	30
* Elizabeth Coatsworth			* M. W. Kerr * Rachel Carson		* Eleanor Coerr Andrew Clements	Millicent Selsam
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* indicates a featured author in the Massachusetts ELA Framework