

ABOUT KAY TOLIVER



Kay Toliver is a Presidential, Disney and Kilby Award-winning teacher who has been teaching at East Harlem Tech/PS 72 in New York City for the past 30 years. She was the subject of a Peabody Award-winning PBS documentary, *Good Morning Miss Toliver*, and is the host of the popular

classroom television series, *The Eddie Files*, and its accompanying professional development series, *The Kay Toliver Files*.

Ms. Toliver stresses application and thinking skills, holds open class discussions, and weaves language, history and art into the study of math. Her students write about what they learned in class, ideas about how to apply the concepts they study, or simply comments and observations about the classroom...Through the writings, Ms. Toliver puts into practice her belief that the ability to express oneself in written English should be acquired hand in hand with mathematical ability.

"Mathematics is a subject in which we have to create thinkers not memorizers," Kay Toliver said in an article in *Mothering* magazine. "It is a subject that involves history and literature as well as numbers; it is more of a communication art than anything. If students are to become the thinkers of tomorrow, we can't just concentrate on getting them to pass tests. We have to show them the real reasons for learning various mathematical concepts. These reasons have to do with math being alive, related to every aspect of life. My goal is to allow students to discover this for themselves."

KAY TOLIVER MATH CONFERENCE

DATE: October 4, 2010
LOCATION: Garden City, KS
TIME: 9:00 am—3:00 pm CST

FEE: Early Bird (by 8/2/10)
\$95/\$75/\$60, Individual/
Building-wide/District-wide
Regular Rate (after 8/2/10)
\$115/\$95/\$80, Individual/
Building-wide/District-wide

**COLLEGE
CREDIT:** 1.0 Hour, Friends University

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- E-mail us at registration@swprsc.org



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KAY TOLIVER MATH CONFERENCE



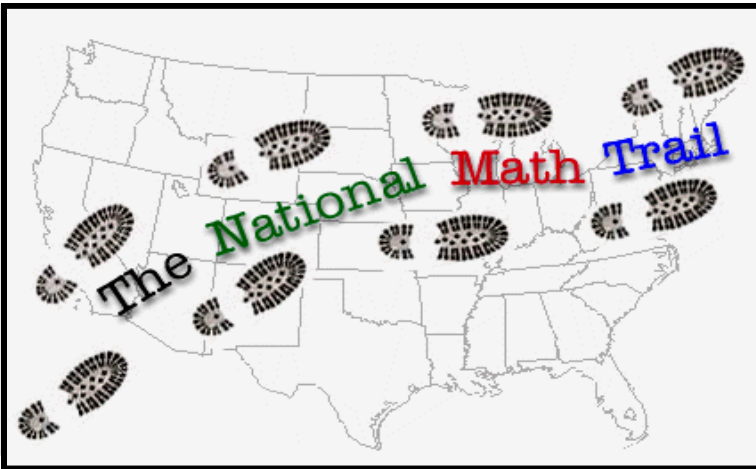
*"This is the
opportunity
of a lifetime!"*

**October 4, 2010
Garden City High School
Garden City, KS**



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THE MATH TRAIL

from www.nationalmathtrail.org

As math teachers, we have the responsibility not just to develop students' mathematical skills but to prepare them to be able to use those skills in life. The math trail presents an exciting way to do just that.

In this activity, I saw a way to get my students working constructively with each other, a way to have them become active learners, and a way to increase their respect for their own community.

Although one can focus on a particular math topic, such as geometry, I prefer to make the math trail a year-end activity in which students draw upon-and demonstrate-all of the math they have learned throughout the year. I start the math trail lesson by explaining to the students that they are going to go into the community to find examples of math problems along a route that they choose themselves-and they will create a book that presents both the trail and the problems they have created. And, of course, they must provide solutions for each problem in the book.

I then take the entire class out myself on a "trial run," showing them where I want their trail to start and then walking around the community and finding a few examples of math problems. Next, I put students into working groups. Each group must have a manager, a recorder, a photographer and other members, and each person must know his job. I tell the students that their book must have an introduction, a map of the community, and instructions as to exactly how to follow their trail.

One of the results that I want to achieve with this project is a sense of achievement among the students. I emphasize that they should be very proud of the final product before they turn it in to me. Whether they type it on the computer or handwritten it, I tell them it should look very good. Before they turn their books in to me, the groups present their results to their classmates. This is yet another opportunity for learning, and for the students to feel pride in their accomplishments.

It's surprising what can happen when you take mathematics out of the classroom and onto the sidewalks. For example, I had one young student who didn't do very well in geometry during the regular class. But as we were doing a trial run of the math trail, she looked at the top of a building and saw one very large triangle and a smaller one on the edge of the roof. She looked up at me and said, "*Miss Toliver, those are two similar triangles!*" I had thought that this student hadn't listened to anything through the whole section on geometry! She went on to explain to me just why they were similar, using the concept of proportionality.

Not only can the math trail give students a new view of mathematics and of their community, it can give a teacher a new view of his or her students' understanding.

Hands-On Math

The measure of our success is not how much we know, nor even how much we tell our students, it is how much mathematical understanding they take away with them at the end of the day. An effective activity has several of these characteristics:

- ◆ Provides a way for the students to see and touch, a physical example of a mathematical concept.
- ◆ Requires the solution of a problem.
- ◆ Gives students a chance to make discoveries of their own.
- ◆ Involves a subject or theme that interests students and excites their imaginations.
- ◆ Presents an opportunity for students to exercise mathematical skills.
- ◆ Illustrates the connections between mathematics and other parts of the curriculum and/or between mathematics and life outside of the classroom.
- ◆ Requires students to think, to communicate, and to work together.

