FOR IMMEDIATE RELEASE   **Go to:** http://www.msri.org/activities/specials/festival/
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Kids to celebrate math at ASU festival

TEMPE, ARIZ. -- Soccer. Little League. Pop Warner. Dance lessons. Music lessons. Math Circles.

Whoa..... Who stuck math into this traditional after-school lineup for kids?

Arizona State University and the Mathematical Sciences Research Institute (MSRI), that's who.

On Saturday, March 13, ASU will host its first ever Math Festival, a gathering in which students ranging in age from advanced middle school to high school level will be treated to a whole day of math games and puzzles, set in a festive atmosphere.

The free festival is intended also to introduce the idea of "Math Circles," where students meet with faculty to work on math problems for fun.

One of the organizers, Matthias Kawski, said the festival will begin at 9:30 a.m. with breakfast, and include snacks, food and drink during the day. "There will be a 'math fair' area with tables where the kids can sit down at tables and work with 50 of the most engaging professional mathematicians from across the country, who will be here for a conference."

During the day, students may choose from a collection of about 10 different special sessions that will engage them in longer, more focused explorations. These sessions will be similar to Math Circles, Kawski said, "and will be led by some of the best mathematical communicators in the nation. These sessions will be repeated several times, starting at 10 a.m.

Participants won't be required to stay all day, Kawski said, but those who do – or are there for the finale – will be treated to a lecture by ASU's own "mathemagician" Glenn Hurlbert, who sometimes arrives for his classes on Rollerblades and is noted for his many tricks.

Hurlbert will speak from 4 to 4:50 p.m., and prizes for various activities during the day will be passed out from 4:50 to 5 p.m.

Kawski and the other festival organizers, Dave Auckly, Omayra Ortega, Hugo Rossi and Mark Saul, plan to set up regular Math Circles for the start of fall semester 2010, with plans to be worked out between now and then.

The festival will serve two main purposes, Kawski noted. First, it will "show the students that the kind of math we do is not what is done in high school. Rules for calculations and algorithms are an important part of mathematics. But all too often they obscure the excitement of creative problem-solving and discovery.

"Mathematics is all about discovering and understanding patterns, and explaining why they are there. It's like the math behind Google."

Second, it will serve young people who are talented in math but have few or no outlets for their interest. "Many students are underserved in the Phoenix area," Kawski said, such as a 13-year-old he knows of who is studying calculus, and a 15-year-old who is taking senior-level college math classes.

The idea of math circles started in Russia and Bulgaria, pairing bright school students with faculty to work in weekly meetings on real mathematical problems, not textbook exercises, said Kawski, who is

associate director for undergraduate programs at ASU's School of Mathematical & Statistical Sciences. "Math Circles are well established in places like Boston, Berkeley, and San Jose, but other sites are lagging."

To broaden the movement, the MSRI is planning a sequel of national "Circles on the Road" conferences, with the first being held at ASU in March in conjunction with the Math Festival. "We expect to have the very best mathematics communicators at ASU for a few days," said Kawski, who teaches in the School of Mathematical and Statistical Sciences at ASU's College of Liberal Arts and Sciences.

MSRI, located in Berkeley, Calif., was founded in 1982 and is primarily funded by the National Science Foundation. It is internationally renowned as a center for mathematics research and postdoctoral education, but a glance at its Web site shows how broadly it looks at math. There are, for example, lists of CDs that show the relationship of math to music, such as "The Art of the Fugue" by harpsichordist Davitt Moroney, and "The John Cage Legacy: Chance in Music and Mathematics."

Math also has a place in comedy. There's a DVD of Steve Martin chatting with mathematician Robert Osserman of MSRI at San Francisco's Herbst Theatre, discussing, for example, "why two banjos are like one slide rule, and whether we really know what pi is." That one is called "Funny Numbers: An Evening with Steve Martin in Conversation with Robert Osserman."

Kawski suggests that parents and students take the light rail to ASU, and look for the Math Festival volunteers at Wexler Hall on Tyler Mall just east of Palm Walk. They'll all be wearing gold shirts.

For more information on the Math Festival, and to register, go to
https://secure.msri.org/activities/specials/festival/ASUReg.html

Sample problem:
Coin balancing
Sarah is given a bag with n coins, n-1 silver dollars and one identical looking counterfeit coin that is known to weigh less.

She also has a balance with which she can compare the weights of any two subsets of coins. What is the largest number n for which it is possible to identify the counterfeit coin in no more than two weighings? in no more than 3 weighings?

Hint:
With one weighing one can find the bad coin among 3 coins. With two weighings, one can find the bad coin among 9 coins by first grouping these into three groups of three coins each.

Extension:
If it is not known whether the counterfeit coin is lighter or heavier, how many weighings are needed if one starts with 12 coins?

(Credit: http://en.wikipedia.org/wiki/Balance_puzzle)

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