

Alameda: World math competition held on Hornet

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ALAMEDA -- In an age of cell phones, algorithms and supercomputing, it may surprise you to learn that educators are using an ancient device to teach the fundamentals of math.

A very old device -- 2,000 years old.

It's an abacus and members of the Chinese American Abacus Association are the practitioners of this ancient counting tray.

Using the device efficiently forms the mission of the association, which staged a world class competition Saturday aboard the USS Hornet Museum.

More 200 students, mostly elementary and middle schoolers, took part in the World City Cup, an annual math contest held in the United States and Asian nations.



Students take part in the World City Cup math competition Saturday in a hangar of the USS Hornet. (David Boitano/For Bay Area News Group)

The association has chapters throughout the United States, but the Northern California branch established the contest and local members are active, said Angela Hsueh, a Silicon Valley engineer who has taught the abacus.

Students from cities in Taiwan, Vietnam, China and India took part. Last year, the competition was held in Japan and next year it will be held in Malaysia.

Hsueh said the organization was created to help share the knowledge and culture of the abacus and to bring teachers and students together to share their skills. Teachers are also

instructed in how to use the abacus to its best effect in the classroom.

Students are given assessment tests to gauge their mastery of math and the city cup contest tests the kids' knowledge in three areas: mental arithmetic, the abacus and standard math.

Awards were given to children based on their scores within their age group, the city they represented and among the regions represented at the contest.

The first written records of the abacus dated from the second century B.C. in China though cruder counting devices like knots in ropes had been in use before then.

The Chinese abacus is about eight inches tall and has seven rods each containing one bead on a top deck and four on the bottom deck. By moving the beads up and down in one of two decks the user can add, subtract or perform other computations.

The association uses a Japanese version, which contains a slightly different bead pattern because that version computes in units of 10, Hsueh said.

In addition to serving as an adding machine, the abacus also uses the same logic found in modern computers. In fact, the computer sciences department at UC Berkeley jokes about the comparison.

"You walk in (the building) and there is a giant abacus on the wall and it says, "In case of a power failure, use this," Hsueh said.

The abacus is especially useful in the first and second grades when the children are learning basic arithmetic. The tactile nature of the beads and their movement helps students visualize the numbers, Hsueh said.

"If they remove a bead from the zero space and put it in the tenth space, they can see the carry-over," she said.

Repeat the process and soon you will be able to do the computation in your head, she added.

The abacus association's system teaches students discipline because they have to master the device. Students learn perseverance by setting goals in the annual assessment tests. And there is another benefit that every mathematician knows.

"It's very good in keeping your memory sharp and training your concentration," Hsueh added.
