



By Nancy Lane

What do a repeating star pattern on a woven mat, the game of tic-tac-toe, a counting system based on parts of the body, and a knotted cord used for record-keeping have in common? The answer is that they are all examples of ethnomathematics, and they can all be used as classroom activities to help students appreciate mathematics in their own cultures and in cultures worldwide.

To support the inclusion of ethnomathematics in teaching, PREL is developing the Ethnomathematics Digital Library (EDL) website at www.ethnomath.org. It provides information, research, and teaching materials about ethnomathematics.

A basic premise of ethnomathematics is that concepts such as counting, measuring, and calculating develop in response to cultural activities. In the Pacific region, such cultural activities might include those listed in the table at left. Research has shown that when mathematics is taught solely from a Western European perspective, it often makes no sense to ethnically diverse children. To have meaning, the mathematics must be imbedded in their cultural understanding.

During the 2002-2003 school year, a Pacific Educator in Residence will work with PREL staff to develop ethnomathematics curriculum materials. The goal is to enable Pacific children to increase their knowledge of mathematics by applying it to cultural activities that they recognize and understand.

The EDL website is part of a national science, technology, engineering, and mathematics education digital library developed by the National Science Foundation.

Nancy Lane is PREL Director of Communications and Principal Investigator of the Ethnomathematics Digital Library. ★

If you know of teaching materials or other information about mathematics related to Pacific cultural activities such as those listed below, please send details to Nancy Lane, PREL, 1099 Alakea Street, 25th Floor, Honolulu, HI 96813, or email lanen@prel.org. We will make arrangements to add such resources to the EDL.

- Agriculture
- Architecture and building
- Astronomy
- Basketry and beading
- Canoes and sailing vessels
- Chanting and singing
- Dance
- Decorative arts
- Design of household items
- Toys and games, including games of chance
- Kinship relationships
- Land ownership
- Medicine and healing
- Music and musical instruments
- Navigation
- Planning (related to archaeological sites)
- Religious practices
- Roads, bridges, canals, and other civil engineering works
- Sewing, quilting, and weaving
- Sports (including scoring)
- Tattooing, body painting, and body adornment
- Taxation
- Trade and barter

Mathematics/Science WEBLINKS

VILLAGE SCIENCE

www.ankn.uaf.edu/VS/index.html

This site, published by the Alaska Native Knowledge Network, integrates indigenous knowledge and international science.

ALASKA NATIVE KNOWLEDGE NETWORK

www.ankn.uaf.edu

This resource for compiling and exchanging information related to Alaska Native knowledge systems and ways of knowing contains extensive information, including curriculum resources and links to sites dealing with indigenous education worldwide.

ETHNOMATHEMATICS ON THE WEB

www.rpi.edu/~eglash/isgem.dir/links.htm

Links to ethnomathematics pages are classified by ethnicity/geography (including "Pacific Islander Mathematics"), social categories (such as "Mathematics and Gender"), and utility (such as "Ethnomathematics in the Classroom").

INDIGENOUS KNOWLEDGE

www.nuffic.nl/ik-pages/ikww/index.html

This new newsletter focuses on indigenous knowledge (IK). It contains information about courses on IK, research, book reviews, calls and conferences, organizations and networks.

ANSWER TO BRAINTEASER

In order to buy 25 pounds of fish and spend \$25, I bought 3 pounds of yellowfin, 2 pounds of unicorn fish, and 20 pounds of blowfish.

Two possible solutions for this problem can be found at www.prel.org/work/ms/news.asp