Marshall Islanders use stick charts to map the interaction of ocean features such as currents, swells and islands as an aid in navigation. Ocean swells are affected by depth of water, currents and land masses. By charting changes in ocean swells, the Marshall Islanders could accurately navigate in open water. Navigators committed these charts to memory.

-meddos and other forms of stick charts became known beyond the Marshall Islands in the late 1800s with the arrival of Europeans. Stick charts went out of use when canoe travel between the islands ended during World War II.

ANCIENT ANDIAN ACCOUNTING

The Quipu is an ancient Andean method of recording numbers and information as well as simple mathematical operations. Each quipu consists of pendants or knots on colored strings worn numbers are represented using a positional base ten system. Quipus went out of use after the arrival of the Spanish and there are no surviving quipus.

Meddos and other forms of stick charts went out of use when canoe travel between the islands ended during World War II.

NAGIVATING THE OPEN SEAS

The Quipu is an ancient Andean method of recording numbers and information as well as simple mathematical operations. Each quipu consists of pendants or knots on colored strings. Numbers are represented using a positional base ten system. Quipus went out of use after the arrival of the Spanish and there are no surviving quipus. The Kola, also known as Rangoli, is a transient art form throughout the Indian subcontinent. It dates, perhaps, as far back as 2500 B.C.E. Traditionally, colored rice flour is used by girls and women to create designs on the floors of prayer rooms, courtyards and thresholds. The designs incorporate ideas that are comparable with those found in tilings and graph theory. This Kolam and the background are both versions of the design called the Vine Creeper.

Background: Kolam design computer generated by Darrah Chavey | Traditional design constructed by Rhiannon Roselle. For more information | http://www.homsigmaa.org/

THE ART OF PAINTING WITH RICE FLOUR

SONA

STORY-TELLING IN THE SAND

The Sona of the Angola and Congo regions of Africa draw in the sand while a story is being told. The practice is passed on from story-teller to story-teller. A grid of dots is used to "weave" the drawing as a single line made without picking up the finger from the sand, or re-drawing any part. This lusona is called the Lioness with two cubs. The long central rectangle is the mother lion (head on the left); the parts above and below the mother represent the two cubs (heads on opposite sides). The rectangle is of relatively prime dimensions, indicating an awareness of the theorem that those are the rectangles which give one-line drawings. The addition of squares for the cubs, in this case 2 x 2 squares, indicates an awareness of the theorem that any square can be added to a one-line lusona along one side and maintain the one-line property.