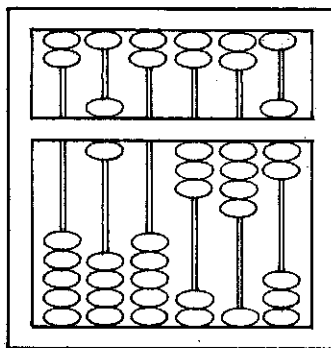


The Chinese Abacus

Chinese stick numerals were used on a counting board. Later, when the Chinese invented paper, they wrote the same symbols on paper. Instead of an empty column to represent zero, they borrowed the zero symbol from India. They still used the counting board for calculations like adding and subtracting.

Someone in China had the bright idea for a more convenient counting board. Beads were strung on cords and attached to a frame. The



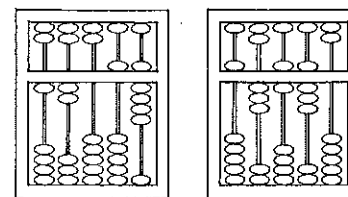
Chinese called this device a *suan pan*, which means “counting board.” We call it an *abacus*. You may have seen an abacus in Chinese shops or restaurants. It lies flat on a table. This abacus shows the number 60,347.

The cords have place value—units, tens, hundreds—just like in our system. The five beads below the crossbar are units. The two beads above the crossbar represent fives. Figure out how the number 60,347 is represented.

People who learn to use an abacus develop *number sense* in their fingers and their brains. They do some of the calculations in their heads. They can work very fast.

Try This

1. Read the number shown on each drawing of the *suan pan*.



2. Make a *suan pan* having four cords.

Materials

- A rectangle of stiff cardboard, about $8\frac{1}{2} \times 11$ inches (20×28 cm)
- 4 pieces of string, about 12 inches (30 cm) long
- 28 beads or macaroni pieces
- Stapler or sticky tape

String seven beads on each piece of string. Staple or tape each strand to the cardboard in three places. Then figure out how to use the abacus for adding and subtracting.

Think About This

The *suan pan* is like using the fingers of one or two hands, grouping by fives and tens. How does it relate to Chinese stick numerals?