# How the Abacus Works

(for solving the abacus puzzles which sometimes appear on the Puzzle page)

The abacus consists of a frame with vertical rods holding moveable beads. Each rod represents a different place value in a number, with the smallest value starting on the right. For these puzzles the first rod is for 1's, the second for 10's, the third for 100's, etc. A horizontal bar divides the rods into an upper and lower section. Beads above the bar are worth 5 of the given place value and beads below the bar are worth 1 of the given value. Beads that are in use to form numbers are moved against the middle bar. Inactive beads stay against the two outer edges of the frame. For example, this abacus would represent the number 735.

700   30   5
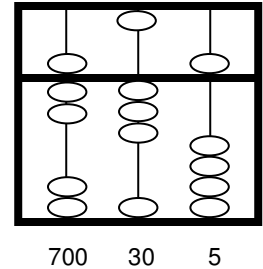
This abacus shows the number 9,875,420. From this example, can you figure out how to make the digits 6, 3, and 1? Remember: the top beads are worth 5 each and the bottom 1 each. The beads against the middle bar are the beads that count.

9   8   7   5   4   2   0