

# The abacus

## THE ABACUS the 30-second history

Nearly every ancient culture used

**3-SECOND SURVEY**  
Most people have ten fingers: useful for counting, but if you need to do basic calculations with more – and you don't have numerals, either – you can always use an abacus.

**3-MINUTE OVERVIEW**  
Don't make the mistake of assuming that abacus calculations are slow. During the military occupation of Japan by

the United States from 1945, American officials were fascinated by the speed with which people used the abacus, so they carried out an experiment. Their electronic calculator operators were beaten by locals using the abacus for all mathematical operations apart from division.

something like an abacus to do mathematical calculations – right back to the old Babylonian empire, which used a counting system based on the number 60. No abacuses or counting boards from that era (c. 1900 BCE) have been found, probably because they were made of wood and have rotted away, but images of them do survive. Later the ancient Egyptians, Greeks, Chinese and Romans all used a device like an abacus, moving beads quickly across a board to add or subtract, while the Aztecs in Central America used a similar gadget with knots on a piece of cord to help them with their number system, which was based on 20. There is some evidence that the Roman abacus was copied from the Chinese one; not only were the calculating machines very similar, but there were also trading links between the two countries. The problem in Europe was that Roman numerals were difficult to calculate with. The mathematician Gerbert of Aurillac, who became Pope Sylvester II, reintroduced the abacus into Western Europe, having learned about Arabic numerals from Arab scholars in Cordoba and Seville – though he did so without a numeral for zero. The abacus lasted until the age of the slide rule and pocket calculator.

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**3-SECOND BIOGRAPHIES**

**GERBERT OF AURILLAC**  
(POPE SYLVESTER II)

946–1003

French mathematician who introduced the Arabic numeral system to Europe and brought with it the abacus.

**TERENCE V. (TIM) CRANMER**  
1925–2001

American founder of the International Braille Research Center and inventor of the Cramer Abacus, used to this day by blind people

**30-SECOND TEXT**

David Boyle

*Fast and effective, the abacus led to the development of Arabic numerals.*

