

## 1. Numbers and Numerals?

We do not know when primitive man first began to use speech instead of sign language to communicate with his family and neighbors, but we do know that man used words for thousands of years before he learned how to set these words down in writing. In the same way, many thousands of years passed after man learned to name numbers before he began to use signs for these numbers - for example, to use the numeral 3 in place of the word three.

Men needed numbers and had to learn to count. Maybe it started when one cave man wanted to trade the sabre-tooth tiger he had slain for his neighbor's three spears . Or maybe it started when a twelve-year-old cave man junior wanted to tell his brothers and sisters about the four hairy mammoths he had seen during the hunt.

## 2. What is a number?

At first, primitive man used sign language to indicate the number he wanted to use. He may have pointed to the three spears in his neighbor's cave or to the slain sabre-tooth tiger at his feet. He may have used his fingers to indicate the number. Two fingers raised on one hand meant two whether he was talking about two spears, two sabre-tooth tigers, two caves or two arrow heads.

In everyday usage, we understand that a number is a word or a symbol which signifies a specific quantity and it is not necessary to define what we are talking about . For example, three or 3 can refer to three airplanes, three pens or three schoolbooks.

## 3. How did primitive man count?

Some primitive men did not use numbers beyond two. Only a century ago, When explorers visited the Hottentots in Central Africa, they found that these people had only three numbers: one, two and many. If a Hottentot had three or more cows, even if he had 79 or 2,000, he would count that number as many. Most primitive men counted up to ten, or the total number of fingers on their hands. Others counted up to 20, or the number of fingers and toes.

When you count on your fingers, it does not matter whether you start with your thumb or little finger. Among primitive people, there were set rules. The Zuni Indians started to count with the little finger of the left hand. The Otomacs of South America began with the thumb.

As men became more civilized, they used sticks, pebbles and shells to write numbers. They set three sticks or pebbles in a row to show that they meant three. Others made notches in a stick or tied knots in a rope as a means of writing their numbers.

## 4. When did man first use numerals?

The earliest written numbers so far discovered were used in ancient Egypt and Mesopotamia about 3000B.C. These people, living many miles apart, each independently developed a set of numerals. Their simple numerals, 1, 2, 3, were copies of the cave man's sticks or notches. It is interesting to note that in many of the numeral systems found throughout the world, 1 was written as a single stroke (like a stick) or as a dot (like a pebble).

## 5. How did ancient man write?

The ancient Egyptians wrote their numerals on papyrus, a special paper made from reeds, painted them on pottery and carved them into the walls of their temples and pyramids. The Sumerians taught the Babylonians how to cut their numerals into soft clay tablets. The ancient Chinese did their number writing with ink and a bamboo brush or pen on cloth.

In the Western Hemisphere, with no contact with the rest of the world, the Mayas of Central America developed one of the most remarkable of the early number systems. They made their numerals using only three symbols: a dot (●), a straight line ( — ), an oval.

**6. How long would it take you to write a million?**

The ancient Egyptians, Babylonians and Chinese, like the early Greeks and Romans, used special signs or numerals to express large numbers. This development of special signs for large numbers was the first advance in numeral writing. Imagine the difficulty and the time needed to write one million by cutting notches in branches or setting pebbles out in the sand. If you were to follow these method, or count pennies one at a time (1 a second), it would take you 278 hours, or 11 days and 14 hours of nonstop counting to reach one million.

**7. Why are numerals important?**

Every forward step in civilization brought additional uses for numerals. If a man owned land, he wanted to measure his property. If he sailed in his boat, he wanted to know how far from shore he was, if he wanted to build a temple or pyramid, he had to know how many stones he would need. When he learned to calculate with his numerals, he could measure time, distance, area and volume. By using numerals, he increased his knowledge and control of the world around him.