

Please complete the keeping time and counting sheaves reading and answer the questions on your own paper.

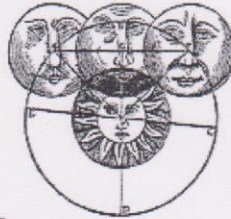
If I Were a Sumerian...



Keeping Time

The Sumerians developed what may be the world's most ancient calendar. Theirs was a lunar calendar consisting of twelve months of 29 or 30 days which measured years in terms of a king's reign. For example an event might have been described as having occurred "in the fourth month of the third year of the reign of Lugal." There were no weeks in the Sumerian calendar and days began at sunset and lasted for two periods of double six or twelve hours each.

Sumerians were quite interested in the heavens. They identified and named the brightest stars, outlined many of the constellations, and kept track of the movements of the five planets that are visible with the naked eye: Mercury, Venus, Mars, Jupiter, and Saturn, as well as the sun and moon. They knew by the positions of these heavenly bodies when seasonal rains would come, when floods were due, when fields should be planted, and so forth.



PROBLEM & SOLUTION:

The Sumerian's lunar calendar recorded a year that was 355 days long based on the phases of the moon. The solar calendar used by most countries today is $365 \frac{1}{4}$ days long, 365 with an extra day added every fourth year.

1. How might this difference have caused problems for the Sumerians? _____

2. How could the Sumerians have corrected this difference? _____

If I Were a Sumerian...



Counting Sheaves

Numbers in Sumer were probably first used to keep records of trade. Originally, different trade goods were shown by different symbols repeated to show quantity. For example three sheaves of grain were illustrated by three "grain marks." Though there had to be as many different symbols as there were products, this system worked well enough for small quantities. As trade grew, though, there was a need for a simpler counting system.

Gradually the Sumerians devised a better means of recording trades. They used the same symbol to represent "three" whether it was three bundles of grain, three chickens, or three jars of oil, followed by a symbol for the product. While their system was still somewhat difficult to use, it was far better than their earlier method and allowed for writing much larger numbers.

$$1 \text{ D} = 1$$

$$10 \text{ D} = 1 \bullet = 10$$

$$6 \bullet = 1 \text{ D} = 60$$

Complete the chart: $10 \text{ D} = 1 \text{ D} \bullet = \underline{\hspace{2cm}}$

$$6 \text{ D} \bullet = 1 \bullet = \underline{\hspace{2cm}}$$

$$10 \bullet = 1 \text{ O} = \underline{\hspace{2cm}}$$

What is the value of $\bullet \text{ D D D}$? $\underline{\hspace{2cm}}$

What is the value of $\text{D} \bullet$? $\underline{\hspace{2cm}}$

What is the value of D D D ? $\underline{\hspace{2cm}}$

CHALLENGE QUESTION: How do you think Sumerians might have written 3,610 sheaves of wheat?