

Number Systems.

Home Work - Life of Universe:

(1) span of Epochs 1, 2, 3 & 4

Epoch 4 =  $x = 432,000$  years

Epoch 3 =  $2x = 864,000$  years

Epoch 2 =  $3x = 1,296,000$  years

Epoch 1 =  $4x = 1,728,000$  years

At the end of <sup>an</sup> Epoch there is a major calamity. Present Epoch (Epoch 4) started 4 10,000 years <sub>back</sub>

1 Full divine day = day + night  
 =  $4.32 \times 10^9 + 4.32 \times 10^9$   
 =  $8.64 \times 10^9$

i.e. 8.64 Billion years.

- At the end of Full divine day all life forms cease to exist (on earth?)!

- As per science, the life of our sun is about 9 to 10 Billion years!!

(2) span of 1 divine day.

1 Great Epoch = Epochs 1+2+3+4  
 = 4,320,000 years  
 (4.32 Million years)

1 divine day

= 14 Manu + 15 gap years of Epoch 1

= 14 x 71 Great Epochs

+ 15 x Epoch 1 years

=  $14 \times 71 \times 4,320,000 + 15 \times 1,728,000$

=  $4,320,000,000 = 4.32 \times 10^9$   
 (4.32 Billion years).

(3)

1 divine year = 360 full divine days

=  $360 \times 8.64 \times 10^9$

=  $3,110.4 \times 10^9$  years

(3,110.4 Billion years)

End of Galaxy??

(4) Life of universe

= 100 Divine years.

=  $100 \times 3,110.4 \times 10^9$

=  $311.04 \times 10^{12}$

(311.04 Trillion years!)

At present we are in

51<sup>st</sup> Divine year; 7<sup>th</sup> Manu; 28<sup>th</sup> Great Epoch and 4<sup>th</sup> epoch!

# Binary Numbers

- Decimal system has 10 symbols including '0'.

0, 1, 2, 3, 4, 5, 6, 7, 8, 9,

- The question is what is so holy about 10 symbols and base of 10?

- Note that Mayan numbers have only 2 symbols (zero is not explicitly used) and a base of 20!

- Let us say, we don't have the symbols 8 and 9, we can continue the counting as below:

0, 1, 2, 3, 4, 5, 6, 7, 10, 11, 12...

Since, we have 8 unique symbols, the positional system will have power of 8

$$\text{i.e., } 10_{(8)} = 8 + 0 = 8_{(10)}$$

(Octal) (Decimal)  
(Equivalent)

- We call the above system Octal system. We can develop the arithmetic tables

to perform calculations using Octal system:

Ex

$$\begin{array}{r} 25_{(8)} \Rightarrow 21_{(10)} \\ 42_{(8)} \Rightarrow 34_{(10)} \\ \hline 67_{(8)} \Rightarrow 55_{(10)} \end{array}$$

We have

$$67_{(8)} \Rightarrow 8 \times 6 + 7 \times 1 = 48 + 7 = 55_{(10)}$$

- With some practice, we can perform all arithmetic using octal system.
- We need at least one symbol to perform counting and arithmetic. It is called the Unary system.

- Let us say, we have a unary system with symbol '1'

1, 11, 111, 1111, ... (Unary)  
1, 2, 3, 4, ... (Decimal)

- It is a simple system, but is unwieldy for large numbers.

- Finally a system with 2 symbols is called the Binary system. Let us say we have symbols 0 & 1

we have  
0, 1, 10, 11, 100, 101, ... (Binary)

0, 1, 2, 3, 4, 5, ... (Decimal)

- Position is based on powers of 2.