

Mayan Adventure



You need



counters



string



multilink cubes



ice-block sticks or Cuisenaire rods

Welcome to the Mayan civilisation of Central America. You have travelled back nearly 2 000 years from your time!

We are one of the first peoples in the world to have invented a symbol for zero.

We have our own counting system.

Activity One

1. Copy the table and fill in the missing Mayan numbers.

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19

When Mayan numbers get above 20, you show 20 by adding a dot that is higher than the other dots. So to show 46, you would write:

← two 20s
 ← 5 + 1 = 6

2. Copy and complete this table, using Mayan numbers.

22	25	50	78	81
• ••			••• ••• ≡	



3. Using sticks, string, and counters, can you do these sums? Give your answers in Mayan numbers.

a. $\begin{array}{c} \bullet \bullet \bullet \bullet \\ \equiv \end{array} + \underline{\hspace{2cm}} =$

b. $\begin{array}{c} \bullet \bullet \\ \hline \end{array} + \begin{array}{c} \bullet \\ \hline \end{array} =$

c. $\begin{array}{c} \bullet \bullet \bullet \bullet \\ \equiv \end{array} + \begin{array}{c} \bullet \bullet \bullet \bullet \\ \equiv \end{array} =$

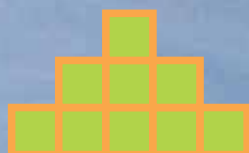
d. $\begin{array}{c} \bullet \bullet \bullet \\ \hline \end{array} + \begin{array}{c} \smile \end{array} =$

Activity Two

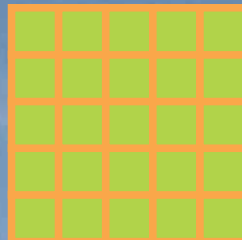
The Mayans have built a pyramid from giant blocks.

The pictures below show what it looks like from the ground and from the *Space Waka*.

1. Use the pictures below to make a model of the pyramid with multilink cubes.



view of each side from the ground



view looking down from the *Space Waka*

2. a. How many blocks did it take to make the pyramid?
b. If one giant block weighs 0.5 tonne, how much does the pyramid weigh?

The king wants to build a pyramid. The square on the bottom level will be seven blocks by seven blocks.

3. a. Build the king's pyramid with multilink cubes.
b. Write how many blocks it will take in Mayan numbers.
4. a. How many blocks would it take to build a pyramid with a base of nine blocks by nine blocks?
b. Can you find a way of working out the number of blocks in the pyramids above? (Look for a pattern in the number of blocks.)

