



## **Mathematical models: from sundials to number engines**

*Incas and their knots*

### **Narrator:**

Knots were the basis of the mathematical modelling used by more recent civilisation, the South American Incas.

They were great ones for keeping records of what they produced or owned. The number of cows owned by a farmer could be represented by knots on a single cord.

Unlike the Babylonians, the Incas used a number system with base 10. 122 cows represented by the knots down this cord. The knots on the other cords represent cows owned by other farmers. The units, tens and hundreds are lined up across the cords. And zeros are represented by the absence of a knot.

Groups of cords were called 'Quipu's' and were used by the Inca's to keep records of almost everything, from the population and belonging of a single village, to the output of goods from a complete region.