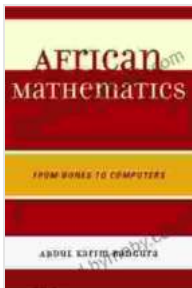


# African Mathematics: From Bones to Computers

## Uncovering the Rich History of African Mathematical Innovations

Mathematics is often perceived as a Western discipline, but the truth is that Africa has a rich and vibrant mathematical history stretching back thousands of years. From the ancient Ishango bone to the modern-day applications of mathematics in computer science, African mathematicians have made significant contributions to the field.



### African Mathematics: From Bones to Computers

by Farley Mowat

★★★★☆ 4.6 out of 5

Language : English  
File size : 569 KB  
Text-to-Speech : Enabled  
Screen Reader : Supported  
Enhanced typesetting : Enabled  
Word Wise : Enabled  
Print length : 227 pages



## The Ishango Bone: A Mathematical Marvel

The Ishango bone, discovered in the Democratic Republic of Congo, is one of the oldest known mathematical artifacts in the world. This bone tool, dating back to around 20,000 BC, features a series of notches arranged in three columns. Researchers believe that these notches represent a rudimentary form of counting or a mathematical calendar.



## **Egyptian Mathematics: The Dawn of Geometry**

Ancient Egypt was a hub of mathematical innovation. Egyptian mathematicians developed a sophisticated system of hieroglyphic numerals and made significant advances in geometry. They calculated the area of triangles and circles, and they developed the concept of the Pythagorean theorem centuries before Pythagoras himself.

1	𐤀	10	𐤁	100	𐤂	1000	𐤃
2	𐤄	20	𐤅	200	𐤆	2000	𐤇
3	𐤈	30	𐤉	300	𐤊	3000	𐤋
4	𐤌	40	𐤍	400	𐤎	4000	𐤏
5	𐤐	50	𐤑	500	𐤒	5000	𐤓
6	𐤔	60	𐤕	600	𐤖	6000	𐤗
7	𐤙	70	𐤚	700	𐤛	7000	𐤜
8	𐤞	80	𐤟	800	𐤠	8000	𐤡
9	𐤣	90	𐤤	900	𐤥	9000	𐤦
Hieratic numerals							

## Sudoku: An African Game with Global Popularity

The popular puzzle game Sudoku, which originated in Japan, actually has its roots in Africa. In the 19th century, a game called "Latin Squares" was invented in France, and this game later spread to Africa. In the 1970s, a newspaper in Kenya published a simplified version of Latin Squares called "Number Place," which eventually evolved into the Sudoku we know today.

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

## African Mathematicians in the Modern Era

In the 20th and 21st centuries, African mathematicians have continued to make groundbreaking contributions to the field. Notable figures include:

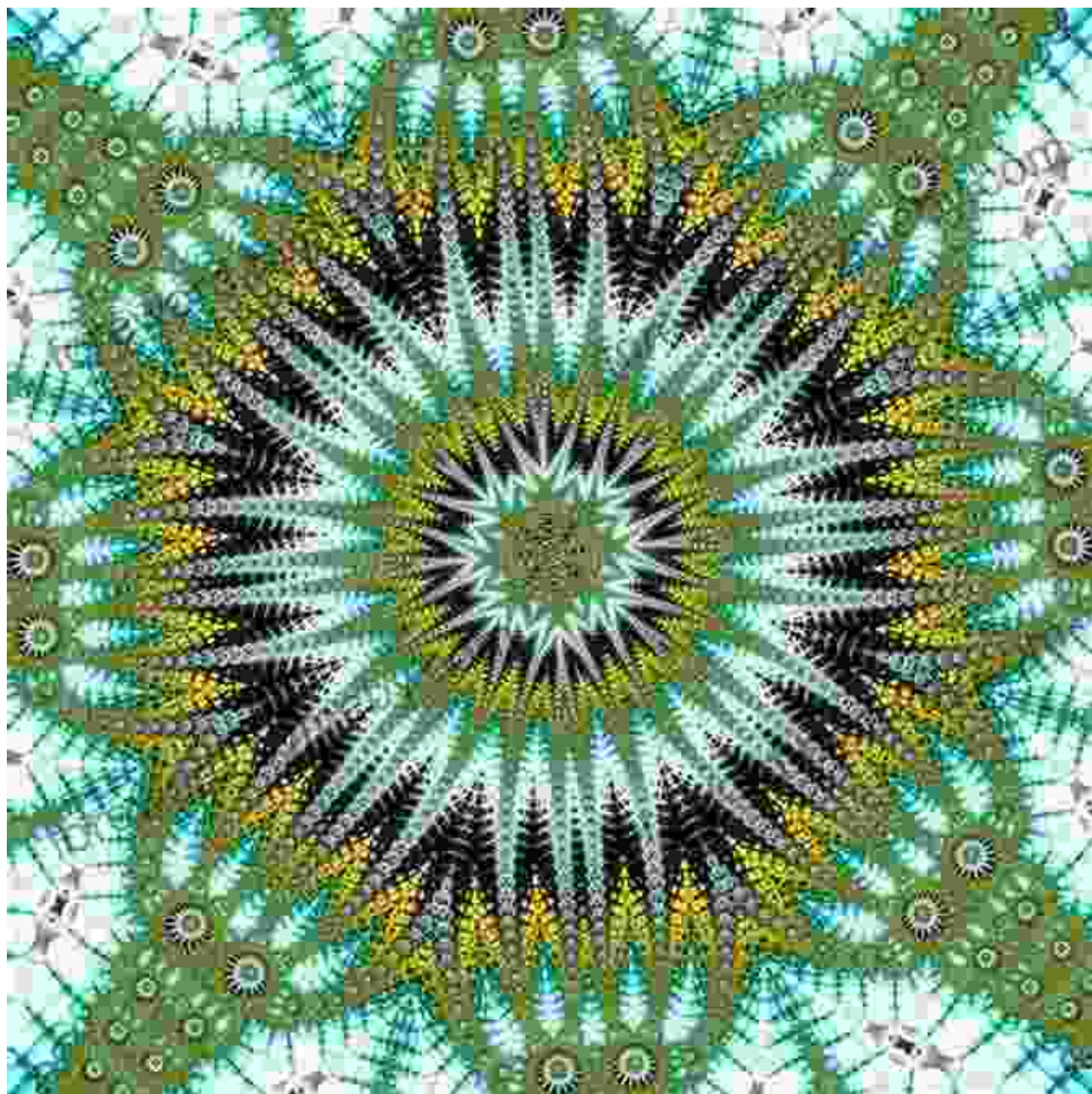
- **Thomas Sankara** (Burkina Faso): Developed a mathematical model for economic development.

- **Wole Soyinka** (Nigeria): Nobel Prize-winning author and mathematician who used mathematical concepts in his literary works.
- **Maria Mboijana** (Tanzania): Mathematician and activist who promoted STEM education in Africa.
- **Francis Nyamnjoh** (Cameroon): Mathematician and social anthropologist who explored the relationship between mathematics and African culture.

## **Mathematics in African Computer Science**

Mathematics plays a crucial role in modern computer science. African mathematicians have made significant contributions in areas such as:

- **Fibonacci Sequence:** This sequence of numbers, found in nature and mathematics, was first discovered by the Arab mathematician Abu Kamil in the 9th century. It has applications in computer algorithms and data structures.
- **Fractals:** These geometric patterns, which exhibit self-similarity at different scales, were first described by the Polish mathematician Benoit Mandelbrot. African mathematicians have applied fractals to computer graphics and image processing.

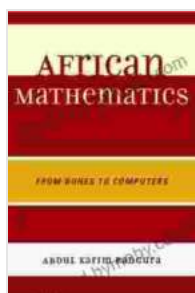


## **Preserving and Promoting African Mathematical Heritage**

The rich mathematical heritage of Africa is a valuable resource that should be preserved and promoted. There are a number of initiatives underway to document and share African mathematical knowledge, including:

- **The African Mathematical Union:** An organization dedicated to promoting mathematics in Africa and showcasing African mathematical achievements.
- **The Historia Mathematica Africana:** A journal that publishes research on the history of mathematics in Africa.
- **The African Institute for Mathematical Sciences:** A network of research institutes that train and support African mathematicians.

African mathematics is a vibrant and diverse field with a rich history and a promising future. From the ancient Ishango bone to the modern-day applications of mathematics in computer science, African mathematicians have made significant contributions to the world of mathematics and beyond. By preserving and promoting this heritage, we can inspire future generations of African mathematicians and continue to unlock the transformative power of mathematics.



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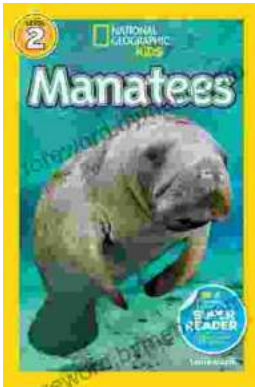
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