

History of Math Lesson

Objectives: students should be able to

- explain the mathematical implications of the Ishango bone.
- report on where, when, and by whom the Ishango bone was used.

Activity

Students should be taken to the computer lab so that they can utilize web resources for research on the Ishango bone.

Students should visit the following websites:

- <http://www.naturalsciences.be/expo/ishango/en/index.html> -- this is the site developed by the Belgian Royal Institute of Sciences—the place where the Ishango bone is currently housed.
- <http://www.math.buffalo.edu/mad/Ancient-Africa/ishango.html> -- this is a site maintained by the math department at the University of Buffalo. It will be the main site for research and contains the most detailed information.

Students should answer the following questions in groups:

- (1) Where was the Ishango bone discovered? (you're going to need a more precise answer than simply, "Africa")
- (2) What were the people like who lived where the Ishango bone was found?
- (3) How old is the Ishango bone? Are there any mathematical objects known to be older than the Ishango bone? If so, where did those objects come from?
- (4) How does the bone indicate an understanding of multiplication?
- (5) What clues does the bone give that the maker may have had some understanding of a base 10 number system?
- (6) What are the sums of the three columns?
- (7) The Royal Belgian Institute site says of these sums, "It is hard to believe it is a pure coincidence." Do you agree or disagree. Justify your claim!
- (8) Closer looks with a microscope reveal evidence that the Ishango bone was also used as a lunar phase counter. Who, in a hunter-gatherer society, would have use for an object that tabulated the length of our calendar month?
- (9) What does this say about who the first "mathematicians" may have been?

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Assessment: Each group should report on their findings and opinions of at least one question. For the last 3 questions, the teacher should attempt to stimulate some class discussion on whether or not the rest of the class found the same thing, and whether or not the rest of the class agrees with the assertions of the presenting group.

In a wrap-up of this activity, special emphasis should be placed on the contributions of Africans and women to mathematics throughout history.