

ZMATH 2012d.00587

Nishiyama, Yutaka

The mathematics of the straw flute.

Int. J. Pure Appl. Math. 74, No. 1, 11-20 (2012).

Summary: It is possible to make a simple flute-like instrument using a straw. I used an electronic tuner to determine reference tones, and then located the required positions to create finger holes to form a diatonic scale. Pythagoras created Pythagorean tuning as part of his research into the relationship between scales and the length of strings. The oscillations that represent a scale and the length of the strings creating it can be represented by a geometric series, showing us the close association between music and mathematics.

Classification: M80

Keywords: reference tones; scales; Pythagorean tuning; geometric series; modular arithmetic; mathematical applications

<http://www.ijpam.eu/contents/2012-74-1/2/index.html>