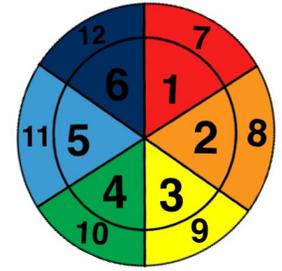


DSA
 Alternate Base Systems
 for Cross-Curricular Fun & Engineering Applications



OVERVIEW OF WHAT BASES ARE:
 BILL LAURITZEN'S FUTURE BASE-12 SYSTEM

DESCRIPTION OF BILL LAURITZEN'S FUTURE BASE-12 SYSTEM:

Bill Lauritzen has developed a visual way to represent base-12, the duodecimal or dozenal base, which relies upon universal visual symbols. He calls his system "Alien Numbers", "Gravity-Generated Numbers", and by other names. In the margins are examples of how to count in Lauritzen's Future Base (all images were obtained directly from Bill Lauritzen, or from his [video](#) and [this](#) article).

	The	Numbers
0 =		= 6
1 =		= 7
2 =		= 8
3 =		= 9
4 =		= 10
5 =		= 11

HISTORY OF BILL LAURITZEN'S FUTURE BASE-12 SYSTEM:

Bill Lauritzen's "Alien Numbers" system is derived from a variety of sources both classical and modern: the fact that there are only five regular polyhedron (also known as Plato's solids) via Euclid's "Elements", the Pythagorean Theorem by Pythagoras (6th century BC), Galileo's "Maximum Area Theorem" in "Dialog Concerning Two New Sciences (1638)" and also from Buckminster Fuller's work and its applications. He says: "Our mathematics framework developed in ignorance of gravity and a round earth. I call this a pre-Newtonian (pre-gravitational) flat-earth framework. I propose a more robust framework that utilizes gravity (or curved space-time in Einstein's model). Like Newton's theory of gravity, this new framework results in a vital shift in our perception of the surrounding universe."¹



USE OF BILL LAURITZEN'S FUTURE BASE-12 SYSTEM:

Bill Lauritzen, in his book "Nature's Numbers" justifies use of his number system as follows: "It is my belief that by deriving from nature and gravity a new geometry and numeration, and by realizing that it is a more sociable geometry and numeration, we can ultimately make a more intelligent and cooperative civilization."¹

EXAMPLES:

Here is a number in base-10: 201.

What does it mean? It means:

- two one-hundreds,
- zero tens, and
- one one.

What does this base-10 number, 201, equal in the "Future Base-12 System"?

It is 149. What does it mean? It means

One gross*:

four dozens:

nine ones:

QUESTIONS:

1. What aspect of this system is most interesting or appealing to you?
2. Do you like how number can be expressed in a variety of ways with "Alien Numbers"? Which way of expressing numbers within the "Alien Number" system do you prefer?

*A gross is what we call twelve twelves.



Number Key

¹ William Lauritzen in "Nature's Numbers". retrieved 6/4/13 from <http://www.earth360.com/math-naturesnumbers.html>

See also <http://www.earth360.com/math-versatile.html>

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