

Orders of Magnitude

From the Office of
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Senate District 2

There is a scientific concept called “orders of magnitude.” It is essentially a multiple of 10. One thousand dollars is 3 orders of magnitude greater than one dollar.

In science we deal with things as small as atoms, to as great as the distance from earth to the sun or more. That’s a variation of more than 20 orders of magnitude.

My thesis advisor – and close family friend – was a man named Dr. Martin Kamen. He was a very unusual scientist as well as the discoverer of carbon 14 – for which he won the United States’ highest scientific honor, the Fermi prize. Unusual circumstances prevented him from winning the noble prize.

Dr. Kamen used to say that scientists had a hard time working over a range of more than a few orders of magnitude. Thus, while they know what the numbers mean, it is hard to actually comprehend a very wide range.

How many people can truly comprehend the size of the national debt? A thousand dollars is a lot of money. Thirty trillion dollars is mythical. It is hard for anyone to grasp. Thirty billion wouldn’t sound all that much different.

A similar problem comes up all the time in this chamber. Trying to truly comprehend what goes on in Oregon’s economy is impossible.

That is why freedom works.

Freedom lets each individual optimize his life or business.

Nobody has to pretend they understand all the details.