



NMSR Reports

The Newsletter of the
New Mexicans for Science and Reason

NMSR Reports, David E. Thomas, Editor, 801 Fitch Ave., Socorro, NM 87801 © 2017

MAY MEETING:

NEW MEXICANS FOR SCIENCE
AND REASON WILL HEAR
ALAN ZELICOFF

On a long-hidden Soviet biological
weapons accident, & Lessons Learned

==>**CNM MAIN CAMPUS,**
Student Resource Center<==

7 PM May 10th

==>Room 204<==

Bring a friend!

weapons treaties, and polygraphs). We are looking forward to this one with anticipation!

7 PM Wednesday May 10th, CNM Main Campus, Student Resource Center, room 204 (@ Richard Barr Boardroom).

June 14th, 2017 NMSR Meeting:

Speaker TBD

No NMSR Meeting in July!

NMSR is on vacation in July, and there won't be a meeting on the 2nd Wednesday.

August 9th, 2017 NMSR Meeting:

Dr. Hillard Kaplan will discuss a recent publication, "*Coronary atherosclerosis in indigenous South American Tsimane: a cross-sectional cohort study.*" How does lifestyle affect our hearts? This will be interesting!

FUTURE MEETINGS ANNOUNCED

May 10th, 2017 NMSR Meeting:
Alan Zelicoff on "Discovery and



analysis of a long-hidden Soviet biological weapons accident: Lessons for modern day bioterrorism and preparedness"

It's been a few years since Al Zelicoff talked to NMSR (past topics included bird flu,



March for Science pix! See page 3-4.

New Mexicans for Science & Reason (NMSR)

NMSR is a non-profit group with the goals of promoting science, the scientific method, rational thinking, and critical examination of dubious or extraordinary claims. NMSR meets at 7 PM on the second Wednesday of each month, in Albuquerque, New Mexico, at CNM's Student Resource Center, room 204 (@ Richard Barr Boardroom). NMSR Reports is its official newsletter.

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Marilyn Savitt-Kring, Science Mom

Harry Murphy, Physicist, Medical Quackery

Membership: \$20/year, includes newsletter, make your check payable to NMSR, send to treasurer (Shelton). Newsletter available in hard-copy and downloadable PDF.

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NMSR Advisors:

- **Mark Boslough,**
Physicist (Impacts, Climate Change, Global Warming). Sandia National Labs.
- **Kendrick Frazier**
Editor, Skeptical Inquirer
- **John Geissman**
Professor of Paleomagnetism, UNM
- **Alan Hale**
Southwest Institute for Space Research
- **Randy Thornhill**
Professor of Biology, UNM

Cyber-Cypher Clue: $X = V$.

Bonus Puzzle Clue: $E = mc^2$.

WANTED: READER ARTICLES & COMMENTARY

Got something to share with NMSR members? Send it in! ATTN: Dave Thomas, Editor, NMSR Reports.

REMEMBER, our next NMSR meeting is at 7 PM on **WEDNESDAY, MAY 10th, 2017,** at Student Resource Center, room 204 **at CNM!**

PUZZLE TIME!

[Please send solutions to Dave Thomas at: nmsrdave@swcp.com, or at 801 Fitch Ave., Socorro NM 87801.]

Cyber-Cypher: MAY PUZZLE

(Submitted by Dave Thomas)

The following letters are a simple substitution cypher. If R stands for L, R will stand for L everywhere. Your Cyber-Cypher Clue: Clue? Oh, well - if you must, see p. 2.

" G H O X O E E I H G H Y D I
 Y O I J W O E D E I
 J D B H A O N D E P W D Y D N F Z O
 Y W I Y A J G O H J O P I A M D E
 C D K A . I N D Y D M Z K
 M E G O H F A F G F . " -
 I A Y E D H I B Y A I N N K E G F O

SUPER SECRET WORD!

However you prefer to do the cypher itself (above or below), simply duplicate those actions on the alphabetized row of cypher letters below. You'll build an answer key, and you'll also reveal - the Super Secret Word!

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

APRIL CYPHER SOLUTION

"AND EVERY ONE THAT HEARETH THESE SAYINGS OF MINE, AND DOETH THEM NOT, SHALL BE LIKENED UNTO A FOOLISH MAN, WHICH BUILT HIS HOUSE UPON THE SAND." - JESUS OF NAZARETH

Esteemed April Code Crackers: Mike Arms*, Alice Anderson* and Terry Lauritsen*.

*Secret Word: "PSEUDOTRIBAL"

Need more Secret Word Cryptograms?

SOCORRO STUMPER

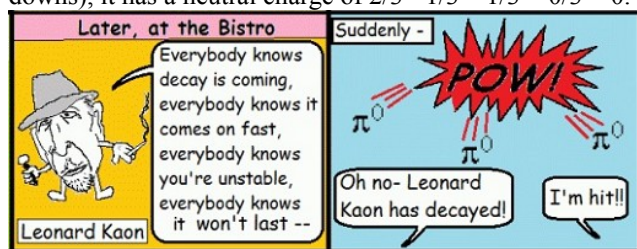
New puzzles every week at

www.nmsr.org/SocorroStumper.htm

May Bonus: “Those Quirky Quarks”

Submitted by Dave Thomas

According to the Standard Model of physics, a proton is composed of 3 quarks (two ups and one down), with a positive charge of $2/3 + 2/3 - 1/3 = 3/3 = 1$. While a neutron is likewise made of 3 quarks (one up and two downs), it has a neutral charge of $2/3 - 1/3 - 1/3 = 0/3 = 0$.



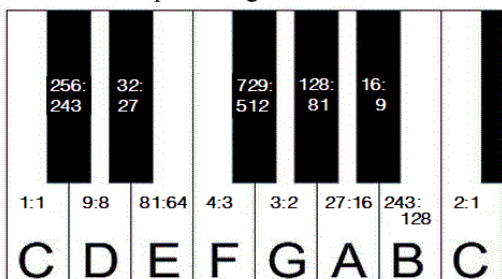
The May Bonus: The combined masses of the three quarks of a proton or neutron constitute what percentage of the rest mass of that proton or neutron?

- (A) 1%
- (B) 50%
- (C) 97%
- (D) 110%

April Bonus: “I Hit a Sour Note!”

Submitted by Dave Thomas

Consider the Pythagorean Scale, for which the frequency ratios to the lower C note are shown below. In the Well-Tempered Scale, on the other hand, the ratio of each note to the one preceding it is a constant $2^{1/12}$.



The April Bonus: For the C-scale starting at 256 Hz, what note has the largest difference between well-tempered and Pythagorean scales? How many hertz off is it?

ANSWER: B, flat by 2.7 Hz. Congrats: Rocky S. Stone (NM), Gene Aronson (NM), Harold H. Gaines (KS), and Alice Anderson(NM)!

Rocky has made a sound file of the comparison, check it out at <http://www.nmsr.org/Scales.mp3>

April 12th, 2017 NMSR Meeting: March for Science, New Mexico!

The March For Science, held on April 22nd, 2017 (Earth Day), championed publicly funded and publicly communicated science as a pillar of human freedom and prosperity. Thousands in Washington D.C., and at over 600 satellite marches, united as a diverse, nonpartisan group, calling for science that upholds the common good, and for political leaders and policymakers to enact evidence-based policies in the public interest. In New Mexico, marches were held in Santa Fe, Albuquerque, Socorro, Las Cruces, Silver City and Taos.



Thousands attended the Albuquerque March.



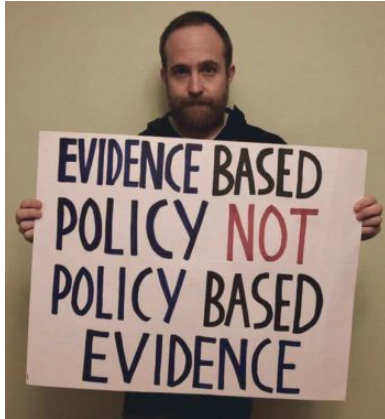
Thousands more attended in Santa Fe.



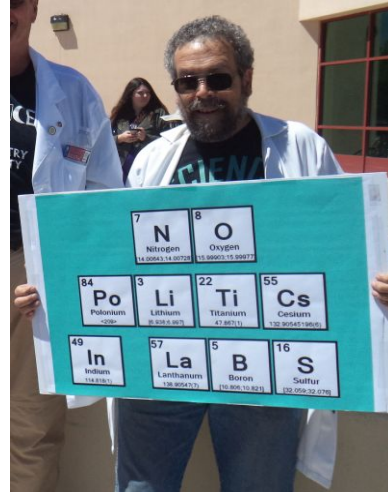
Hundreds attended the LasCruces March.



Hundreds more marched in Socorro, NM.



Signs, Signs, Signs! Clever captions were proudly carried by young, old, scientists, laymen, teachers, students, and more!



Dave Thomas holds his “Breaking Bad” style sign, which says “NO PoLiTiCs In LaBS.”

DUES - check the date on your mailing label. If it's time for you to renew, or to make a contribution, please send a check to NANCY SHELTON, NMSR Treasurer, 11617 Snowheights NE, Albuquerque, NM 87112
 Name _____
 Address _____
 Membership \$20 per annum*
 On the Net? Ask for the Paperless NMSR Reports! Send an email to nmsrdave@swcp.com “Dave Thomas”
 *For Renewals that are above the \$20 annual amount, the excess will be applied to the NMSR budget. Thanks!

The NMSR e-mail list is fun! It’s an e-mail list with news announcements of interest to NMSR members, discussions about news of the times, and more. To join, send a request to nmsrdave@swcp.com.

Thanks to: John Covan, Eddy Jacobs, Nancy Shelton, Debbie Thomas, and all our Puzzlers!

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Zelicoff on Hidden Soviet Bio-Weapons!
Weds., May 10
7 PM
CNM SRC
Room 204

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March for Science Photos

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