the h-bar palladium

Issue 8: 10/17/15
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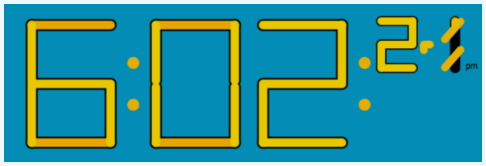
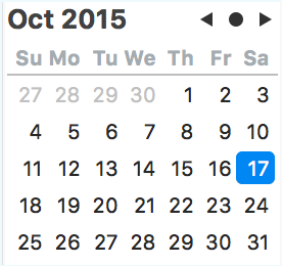
a math+science newsletter

A Nation Celebrates
Order of Magnitude Month



The month of October traditionally marks a worldwide observation of **the powers of 10**. Everywhere people have ten fingers, they can use them to count *exponentially* higher numbers, just by using the common log, $\log_{10} x$.



Possibly the most popular day of Order of Magnitude Month is **Mole Day**, 10/23. Set your AnimaClock for 6:02:21 to celebrate Avogadro's Number, 6.0221×10^{23} particles/mole.

(Amedeo image from Fan-People)

Be sure to mark these up-and-coming dates on your calendar so you can be part of the fun!

10/18: E for exa-day. Bytes of storage in Google: **10 Eb** (from xkcd)
10/21: Z for zetta-day. Grams in the Atmosphere: **5 Zg** (from NASA)
10/24: Y for yotta-day. A day yotta celebrate! Read more on wiki

Images for Fall ***Academy***

Space Exploration students compare orders of magnitude in the solar system. **Physics** students run ramp experiments. **Lunch with Scientists** talk on entropy.

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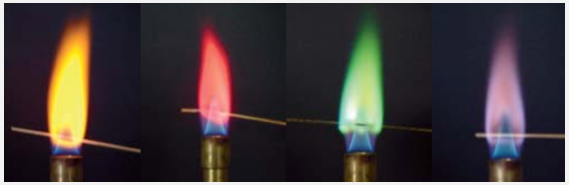

General Chem flame test: Na^+, Li^+, Cu^{2+}, K^+

Announcements

Practice **SAT** November 14th at 1:30 pm Register now!

Winter ***Academy*** in January 2016. Request classes now!

Sequoyah School to open High School Fall 2016, featuring Math/Science by h-bar consultants R&R!

Interactive iBook version of this newsletter available. Press the triangle to see:

education to the universe

SIGMA

"Do not laugh at notations. Invent them." - Richard Feynman

$$\sum_{k=m}^{k=n} a_k = a_m + a_{m+1} + \cdots + a_n$$

Math is the language of the universe, and **notation** is the language of math. We aim to give our students tools to record their thoughts and share their ideas. Of special importance to us is **Sigma**: the symbol for sums.

Consider the triangular numbers:

$$\sum_{k=1}^{4} k = 1 + 2 + 3 + 4 = _____$$

Musical tie-in: the **harmonic** series:

$$\sum_{k=1}^{n} \frac{1}{k}$$