

# DSA Newscast

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## BUILD A DOZENAL WEIGHT SCALE

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SOME ISSUES AGO, we showed how to create our own dozenal ruler, in whatever scale we desire. Now, let's discuss another commonly needed measurement: weight. Let's make a dozenal weight scale!

Supplies are reasonable and inexpensive. We need paper; some paper clips; a pair of needle-nose pliers; and an analog scale. These analog scales are fairly easy to acquire for a reasonable price; Amazon has several for under twenty dollars. The lower-tech the better; it will be easier to take it apart and do what we need to do.

Here's the scale I used:



*Click for Full-size Image*

Flip it over, and you see that this sleek, white exterior is just a cap, and there's a pretty utilitarian aluminum base underneath.



*Click for Full-size Image*

Notice, in the full-size image, that there are two clips at the horizontally bisecting line, one on the right and one on the left. These are what we need to remove.

Using your needle-nose pliers, pull the hooks up and let them fall through the holes back into the base. Holding the apparatus together, flip it back over and remove the top plate; in this case, the white top. This will give you the following:



*Click for Full-size Image*

And so, for all the fuss, we see that this is a very simple apparatus: cross-bars which evenly distribute the weight across the device, which (when weight is applied) press down on a spring, which turns the dial with the weight readings on it. Really quite an elegantly simple system.

This all works quite perfectly as-is; we don't need to do anything to change the mechanical apparatus of the device. All we need to do is change what's written on that dial; we need to make it read in our own scale, rather than the silly decimal ones we're forced to work with every day.

*The Dozenal Society of America is a voluntary, nonprofit educational corporation, organized for the conduct of research and education of the public in the use of dozenal (also called duodecimal or base twelve) in calculations, mathematics, weights and measures, and other branches of pure and applied science.*

And *that* means we need to do some math. Select your scale; I used TGM for this scale. Then take a protractor—remember those D-shaped things you used in school?—and measure the angles for each division on the dial that came with your analog scale. E.g., perhaps ten pounds is five degrees on the dial. Assuming all these angles are evenly distributed around the dial (and they may not be, for reasons that relate to the “spring constant” and don’t need to be gone into here), you’ve got an easier job.

If they are *not* evenly distributed, you need to take note of the angles of each unit you want on your new scale. So, for example, if you want 0;6 Maz on your scale, you need to note that 0;6 Maz is 24;5837 pounds, or almost exactly 28.5 pounds (close enough that, for a scale of this precision, you can treat it as exact). Then, cut out a piece of paper the same circumference as the dial. Mark an arbitrary point on this circumference to be zero. Then measure out the angle from zero

which was 28.5 pounds on the original scale, and mark 0;6 Maz on your new dial. Do this for whatever granularity you want; and when the scale is to your liking, you may proceed.

If they *are* evenly distributed, a computer will do all this mucky work for you. I used Metapost to work the magic. I noted that the total range of my scale was 286.0 pounds; I further noted that this equals 5.0184 Maz. I then divided 360.0 degrees by 5.0184 Maz, and that gave me the number of Maz per each degree on the dial. I then directed Metapost to draw me a dial based on that; you can see the code I used by downloading the file:

[http://www.dozenal.org/tgm\\_scale\\_mass.mp](http://www.dozenal.org/tgm_scale_mass.mp)

Once you’ve got your scale marked up, just use the paperclips to attach it over the dial the scale came with, being careful to keep the zero on your scale lined up precisely with the zero on the original scale. (This is better than permanently attaching it, in case you want to replace it one

day.)

Then, put the cap back on, flip it over, and carefully pull the hooks back through the holes with your needle-nose pliers, holding the apparatus together.

*Voila!* You have a dozenal scale!



*Click for Full-size Image*

I never use pounds anymore, and weight myself exclusively in dozenal; and more, exclusively in TGM. All in all, this is a few hours work, at most, even if you have to write your own code for your dial (which you don’t; you can do it by hand, if that’s easier), and it’s a big help in using dozenal in your daily life.

Happy dozens!

## DOZENAL NEWS

### NEW DOZENAL VIDEOS

There has been an effusion of dozenal videos produced lately; we would like to observe a few of them here.

“We NEED the Doudecimal [sic] (Dozenal) System!” gives a good and intuitive explanation of dozenal and why it is preferable to decimal:

<https://www.youtube.com/watch?v=wNWG6wZM55A>

“All About that Base Number System” is a great introduction to positional notation, and proceeds to explain the advantages of the dozenal over decimal. (Along with some other bases.):

<https://www.youtube.com/watch?v=CeEUVIHTZ2g>

“Why Counting in Twelves Would Make Life Easier” is unabashedly partisan in favor of twelves, using the traditional DSA symbols and words, though it is unfortunately pessimistic about dozenal’s practical prospects:

[https://www.youtube.com/watch?v=y\\_QBDrB1bds](https://www.youtube.com/watch?v=y_QBDrB1bds)

These videos are all short and well-produced, and great references for people unfamiliar with dozenals.

If you have produced any videos of this nature, which would be of interest to our members or to those new to dozenals, please let us know! The more such resources we can assemble, the better, and videos are a very effective way to do outreach in our increasingly mobile age.

### NEW HISTORICAL DOZENAL DOCUMENT AVAILABLE

We’re pleased to announce that we have published the short document “The Duodenary Scale”:

[http://www.dozenal.org/drupal/content/the\\_duodenary\\_scale.html](http://www.dozenal.org/drupal/content/the_duodenary_scale.html)

This document, extracted from the *Encyclopaedia Londinensis* of 1078, provides an interesting glimpse at how well-regarded the dozenal system was among interested persons of that time period. Very short, and worth a read, particularly for those interested in dozenal history.

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## SOCIETY BUSINESS

### ANNUAL MEETING DATE AND LOCATION

Your annual meeting of the Dozenal Society of America has been set. It will be on October 11 (13.), 1201 (2017.), in Atlanta, GA, from 10:00–15:00 in the afternoon. Its location is the Atlanta AMA Conference Center in downtown Atlanta.

We're already looking forward to some very interesting presentations; we hope you'll be able to join us!

### MAJOR WEBSITE UPDATES!

It's been a long time coming, but our website has been significantly updated.

One, we have seriously cleaned up a lot of the code. Much of it was automatically generated, which made it

very difficult to maintain. This difficulty has been significantly mitigated, though there is still much work to be done.

Two, we have greatly improved formatting, updating to HTML5-complaint design for a lot of our pages. This not only makes the code cleaner, but also means that your browser should be able to render them noticeably faster.

Finally, we have improved the site's mobile profile; it degrades much more elegantly as size decreases now, giving a format suitable for phones or small tablets.

Enjoy!

### VOLUNTEERS NEEDED

As mentioned earlier, the DSA is an all-volunteer organization, and we pay

no salaries. As a result, everything that we do comes out of the spare time of our members, time that they have to take away from their families, jobs, or other obligations.

We all love dozenals and enjoy assisting the Society in educating people about them; however, as the Society expands and does more, we find ourselves in need of more help.

Fortunately, the Society has a large membership with a very broad range of professions and experience. If you think you can spare any time or effort for the cause of educating the world about dozenals, please let us know:

[contact@dozenal.org](mailto:contact@dozenal.org)

You can help as much or as little as you'd like. Thank you.

## POETICAL DIVERSION

### NUMBER IS A VITAL THING

O, number is a vital thing in our great world,  
a thing which everyone must know and often use;  
and yet, we labor under decimal flag unfurl'd;  
weigh'd down by this foul tyrant, we must always lose.  
So let us then rise up! Resist the tyrant Ten,  
and rally by the king of numbers, noble Twelve!  
For Two, Three, Four, and Six will be our allies then;  
the despot Ten, so factor-poor, we'll finally shelve!  
For Ten must obfuscate our numbers, high and low,  
while Twelve will e'er support us, bolster mortal ken!  
Our Twelve's abundant and sublime, and so we know  
that history and right are with us! Forth we go!

*This poem is an example of a new form your author has been experimenting with, which he is (a bit ridiculously) calling informally the "dozzet," harkening to the word "sonnet," which describes the famous unqua-two-line poem which has been popular for biquennia. The dozzet consists of twelve lines of twelve syllables each. Thus far I have divided them all into three quartets, though of course they could also be divided into four tercets or two sestets. Thus far, it seems a potent form, yet another example of how powerful twelve can be in every field.*

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## DONATIONS

Members, please remember that while dues are no longer required for membership, we still rely on the generosity of members to keep the DSA going. Donations of any amount, large or small, are welcome and needed.

A donation of \$16; (\$18.) will procure Subscription membership, and entitles the payer to receive both a digital and a paper copy of the *Bulletin* if requested. Other members will receive only a digital copy. To invoke this privilege, please notify the Editor of the Bulletin, John Volan, at [editor@dozenal.org](mailto:editor@dozenal.org)

As members know, we are a volunteer organization which pays no salaries. As such, every penny you donate goes toward furthering the DSA's goals.

It may be worth considering a monthly donation; say, \$3, or \$6, or whatever seems reasonable to you. This can be set up quite easily with Paypal, which is available at our web site.

Of course, if you prefer to donate by check, you may send them to our worthy Treasurer, Jay Schiffman, payable to the Dozenal Society of America, at:

Jay Schiffman  
604-36 South Washington  
Square, #815  
Philadelphia, PA 19106-4115

Remember, too, that the DSA is a 501(c)(3) tax-exempt organization; as such, your contributions may be tax deductible under applicable law.

Thanks again for your assistance; it's your donations that keep the DSA going. We can't keep doing it without you.

## FOR SALE

The DSA is pleased to offer the following for sale. These are all either at cost, or the proceeds go to the Society.

Item	Price (\$)
Dozenal Wall Calendar, 1201	10.05
Dozenal Planning Calendar, 1201	8.32
TGM: A Coherent Dozenal Metrology	8.00
Manual of the Dozenal System	3.46
A Dozenal Primer	4.50

Prices are, unfortunately but by necessity, in decimal. To find these works, simply go to: <http://www.lulu.com/shop/shop.ep> and enter the appropriate terms. E.g., searching for "TGM dozenal" will turn up the TGM book.

We hope to offer other titles, and even some other items (such as dozenal clocks and the like), in the future.

## EACH ONE, TEACH ONE



*Click to return*



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