

Geodesic Folding Tool

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As you know if you've followed my projects for very long, I love making ornaments, and these beautiful geodesic balls are among my favourites. They are fun to make, and when carefully folded and glued together, they are beautiful on the tree.

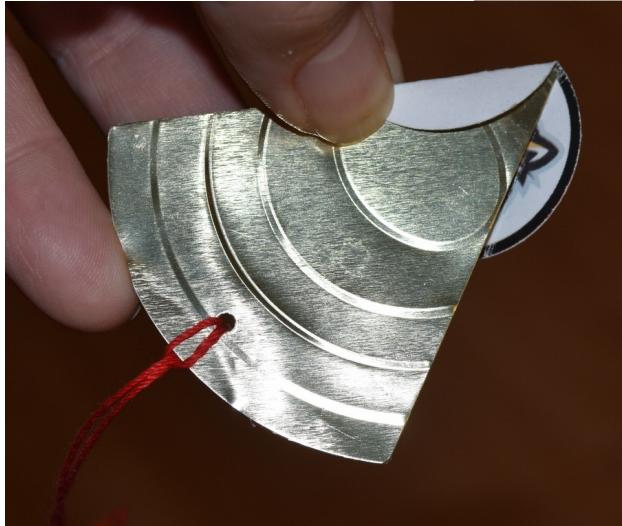
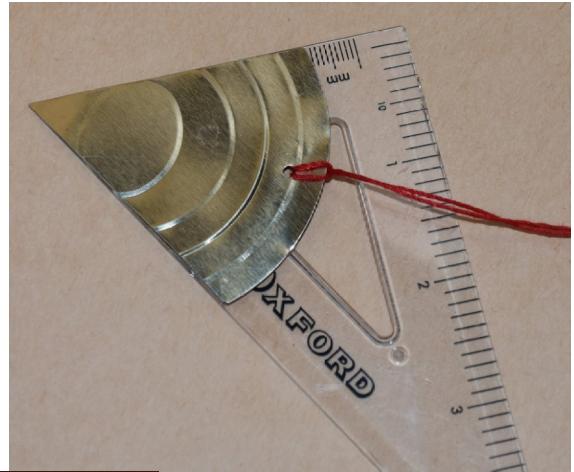
But therein lies the challenge: each ornament requires twenty circles, each with triangular folds measuring 60 degrees at each corner. If the folds aren't accurate, the ornament can't be properly fitted together.

I've made more than two hundred of these geodesic ornaments, and I've tried every method out there for obtaining a consistently sharp, accurate fold.

After much experimentation, I came up with a simple homemade template/tool that is the quickest and most consistent method I've tried.



It's simply a flat triangular piece cut from sturdy scrap metal that comes to a point at exactly 60 degrees. I could have used the 30-60-90 plastic triangle from a math set, but I found that the plastic is too thick to give me an accurate fold. The metal works better.



The clean edges of the metal are thin and sturdy enough that you can simply fold the cardstock circles without scoring. With the point of the tool just shy of the circle's edge, I fold and crease first one and then the other of the flaps, forming a

perfect point, with flanges of equal size. It takes a little bit of practice to place the tip of the tool just right so that you get a sharp point and equal sides, but after a few of the circles you develop an eye for positioning the template correctly.

Using a template like this is by far the quickest and easiest way to get consistent and even folds.



Once the first two folds are made, the third is simple. With the cardstock circle flat on the desktop, line up the template edge against the bottom of the two initial folds. Holding the template down firmly, bend up the circle to form the third crease. Only 19 more to go to make my ornament!

Once you get the hang of using this tool, you'll find that the folding – the most tedious and tricky part of making these ornaments -- goes quite quickly.



This home-made template is a deceptively simple tool that works better than anything else I've tried. And no matter what size circle you start with, the angle of the fold is always 60 degrees, so you can use the same tool for any size of ornament (the optimal circle size for these ornaments is between 1.25" and 1.5", but you can go as large as a 2" circle or as small as 1" and still use the same tool).

I found that metal makes the best template (plastic and cardboard just don't hold a sharp enough tip). To make mine, I used metal from a tin can lid. I traced the 60 degree angle on the lid with a fine-pointed marker, then used my metal-cutting shears to cut it out along the traced lines. If you should decide to make a similar tool of your own, do be careful – that point will be SHARP!

