

Info

Yana Mohanty

Medium: Mathematical sculpture made of Tetra Paks

Dimensions: 6" by 6" by 6"

Campanus 2020

I've been playing with the term "math therapy" on and off for a few years. To me, it means a way to make it through life's challenges by creating something that physically embodies mathematical principles. The challenges of 2020 forced me to make something concrete that illustrates "math therapy". In addition to watching the world suffer through a pandemic, I was facing prolonged illness of several family members. In order to try to stay sane, I turned to folding strips of Tetra Paks to create an origami version of an ancient model of a sphere. Tetra Paks are boxes in which milk, juice, and other liquids are sold in grocery stores. The material consists of layers of plastic, aluminum and cardboard. My "math therapy" finally took the form of "Campanus 2020".

The technique I used is called *snapology origami*, and it was invented by Heinz Strobl. Instead of the card stock typically used for this type of origami, I decided to go with Tetra Paks because of their elegant sheen and sustainability factor. For inspiration, I turned to Campanus' Sphere, so named after a 13th century Italian mathematician and astronomer who wrote a popular account of Euclid's *Elements*. Campanus used one of Euclid's propositions to describe a 72-faceted solid that looks like an approximation of the modern globe. This solid was often portrayed during the Renaissance by Leonardo Da Vinci, Wenzel Jamnitzer, and others.

Making a model of any solid using snapology origami involves two types of strips: the ones that correspond to the facets, and the ones that connect these facets. In the case of the Campanus' Sphere, the latter strips are the latitude and longitude lines. The "facet" strips are mostly covered by the connector strips and are barely visible. My model consists of 72 "facet strips" and 132 connector strips. Each strip was cut using a paper cutter and folded by hand. No adhesive was used.

As our planet was going through great upheaval and uncertainty, making my little Campanus' Sphere model provided me with a safe haven. It was a model of the Earth in which every dimension was not just mathematically predictable, but also familiar from basic high school geometry. By saving the Tetra Paks from landfills, I felt as though I was doing my miniscule part in healing the actual Earth. I hope that "Campanus 2020" inspires other people to turn their Tetra Paks into works of art that calm both the artist and the viewer.