

Making Math Visible

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The “Wiggle-Dome” is one of many large, hands-on, mathematical constructions documented at <http://makingmathvisible.com>

The beauty of mathematics is of fundamental importance to professional mathematicians, but is not generally seen by students and the public. We have been working to design and document a series of hands-on mathematical construction activities that result in beautiful objects that can be displayed in schools or other public areas. These include, giant hyperboloids, a giant-scale SOMA set made of cardboard boxes, large polyhedral structures made of CDs, human-scale domes and puzzles, and much more. We are writing detailed lesson plans with lists of materials and step-by-step instructions so people anywhere can replicate these activities and enrich their environment with mathematical beauty.

Just as exposure to great books can entice students to learn to read, beautiful mathematical objects may fuel students' desire to investigate topics in mathematics and give them an opportunity to acquire a positive lifetime perspective towards math. Traditional classroom walls are often overflowing with language-based displays of learning, while the beauty of math is rarely seen.

We believe that creative hands-on activities can informally introduce students to mathematical thinking and get them excited about math. Young people have an inherent curiosity and a willingness to explore that is characteristic of professional mathematicians. Our workshops can foster this natural tendency and show students that “math is cool!” Our goal is to make math visible and accessible by constructing visually engaging, publicly displayed objects that provide a tangible platform for discussion and inquiry.



A giant hyperboloid made from 4-foot dowels and large rubber bands, plus a smaller hyperboloid made from chop sticks and pony-tail rubber bands.



A color-matching dissection of the rhombic triacontahedron. This beautiful, challenging puzzle consists of twenty wood rhombohedra.

For more information, see <http://makingmathvisible.com>