



# MATHEMATICAL IMAGERY



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**The connection between mathematics and art goes** back thousands of years. Mathematics has been used in the design of Gothic cathedrals, Rose windows, oriental rugs, mosaics and tilings. Geometric forms were fundamental to the cubists and many abstract expressionists, and award-winning sculptors have used topology as the basis for their pieces. Dutch artist M.C. Escher represented infinity, Möbius bands, tessellations, deformations, reflections, Platonic solids, spirals, symmetry, and the hyperbolic plane in his works.

Mathematicians and artists continue to create stunning works in all media and to explore the visualization of mathematics--origami, computer-generated landscapes, tessellations, fractals, anamorphic art, and more.

*A mathematician, like a painter or poet, is a maker of patterns. If his patterns are more permanent than theirs, it is because they are made with ideas.*

—G. H. Hardy, *A Mathematician's Apology*

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### Fractal Pancakes



I'm a math teacher, illustrator, and dad. Having begun earlier this year, I'm always looking for new themes; in this pancakes I cooked up one morning. On my blog, [www.10nfractals.com](http://www.10nfractals.com) and other topics that interest me as a teacher. ---

### Simon Beck's Snow Patterns



I create geometric patterns in the snow, walking along the snow. On average the works take about 10 hours to really do it; feet get cold or hurt too much. The setting out is done using distance determination using pace counting or measuring circles are made using a clothesline attached to an anchor world of geometry. The Koch curve and Sierpinski triangle works are very large (the size of several soccer fields), and 3D, especially when viewed from above. --- Simon Beck

### 2012 Mathematical Art Exhibition

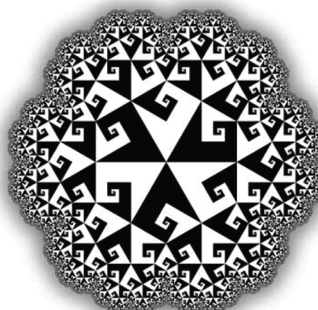


The 2012 Mathematical Art Exhibition, held at the Joint Math largest exhibition to date. Here on Mathematical Image media. Mathematical Art Exhibition Awards were given: First Place to Thomas Hull, Robert Lang, "Cone"; and Third Place to Carlo H. Séquin for "Lawson's Mitten". Aesthetically pleasing works that combine mathematics and art are acknowledged and honored. The American Mathematical Society acknowledges those whose works demonstrate the beauty of a visual art form. The thumbnail images in the album are pre-named.

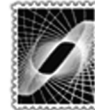
### Erica Rollings Glass Works



All my life I have vacillated between mathematics and art and find I am happiest when doing both. It's generally acknowledged that math and music are closely related in human developmental processes. I guess it boils down to basic communication. Math and music are languages, and art is a visual means of communication. My medium of choice is glass, and my favorite designs are mathematical and usually the ones that nature presents in both anatomical and botanical spheres of life. --- Erica Rollings Glass Works ([www.ericarollings.net](http://www.ericarollings.net))



"Fractal Tessellation of Spirals," by Robert Fathauer (Tessellations, Phoenix, AZ)



Dear Bill,  
Here's one of the e-postcards from the site.

Annette

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## GALLERIES & MUSEUMS

Bridges: Mathematical Connections in Art, Music, and Science  
M.C. Escher: the Official Website  
Images and Mathematics, MathArchives  
The Institute for Figuring  
Kalender, by Herwig Hauser  
The KnotPlot Site  
Mathematical Imagery by Jos Leys  
Mathematics Museum (Japan)  
Visual Mathematics Journal

## ARTICLES & RESOURCES

Art & Music, MathArchives  
Geometry in Art & Architecture, by Paul Calter (Dartmouth College)  
Harmony and Proportion, by John Boyd-Brent  
International Society of the Arts, Mathematics and Architecture  
Journal of Mathematics and the Arts  
Mathematics and Art, the April 2003 Feature Column by Joe Malkevitch  
Maths and Art: the whistlestop tour, by Lewis Dartnell  
Mathematics and Art, (The theme for Mathematics Awareness Month 2003)  
Viewpoints: Mathematics and Art, by Annalisa Crannell (Franklin & Marshall College) and Marc Frantz (Indiana University)