



Hyperbolic Fun

My husband knows I love crafts and mathematics. For my birthday, he gave me a wonderful gift, *Crocheting Adventures with Hyperbolic Planes* by Daina Taimina.

A hyperbolic plane is an elusive geometrical surface. One way of thinking about it goes like this: If I have an ant on a 2 inch leash and it walks around me, the radius of the circle she travels will be exactly 2 inches. If I have her on a beach ball, the radius of the circle she travels would always be less than two inches. The hyperbolic plane is the surface on which the ant's circle would always have a radius of more than two inches. That is just a simple visual for a very important mathematical concept

Daina says:

In this book I am trying to explain to crocheters the mathematics that can be experienced through these models. With weathered mathematicians I am sharing a tactile way of exploring mathematical ideas. For all others, I hope this book will convey a different way to view mathematics. (p.6)

A wonderful goal, and she succeeds. But that is not the reason for this article.

You would think that this conjunction of crochet and mathematics is of rather limited interest. But it has spawned enthusiasts all over the world, thanks to the magic of the internet. On facebook, for example, there are 5 groups that come up when you search for "hyperbolic planes"!

The Hyperbolic Crochet Coral Reef is a project started by Christine Werthheim and Margaret Wertheim as "a woolly celebration of the intersection of higher geometry and feminine handicraft, and a testimony to the disappearing wonders of the marine world." Currently there is an exhibition at the Cooper Hewitt Design Museum in New York, and in October there will be an exhibit at the Smithsonian. And other people have started making satellite reefs in such places as Chicago and Australia.

For people who like to work with their hands, the prospect of making your own Hyperbolic Plane are very intriguing. The Institute for Figuring has pictures and instructions. Lion Brand yarns has free instructions for coral reef components. But I figured mine out from the book.



Daina Taimina, *Crocheting Adventures with Hyperbolic Planes*, A.K.Peters, Wellesley, MA, 2009, 148 pp.

[Hyperbolic Crochet Coral Reef](#)

[Institute for Figuring Pictures of Hyperbolic planes](#)

[Lion Brand Yarns](#)