I hope you and your children enjoy these coloring designs. If you have any questions, or if you want to suggest a new design I should add, please drop me an email.

— Denise Gaskins
LetsPlayMath@gmail.com
Contents

Ready-to-Color Designs ................................................................. 4
  Mandalas and Tessellations

Dot Grids and Graph Paper ............................................................. 14
  Create Your Own Designs

Geometric Guidelines ..................................................................... 27
  Advanced Tessellation Patterns

Playful Math Books by Denise Gaskins ........................................... 41
I created these coloring pages for my homeschool co-op math circle kids. We used them to play the Notice and Wonder game (see Annie Fetter’s YouTube video “Ever Wonder What They’d Notice?” at youtu.be/a-Fth6s0aRA) and to talk about symmetry. We used them for time-fillers when children finished a project early or for take-home sheets when we were running late.

The lines of each design are colored nonphoto blue, in case you want to scan your finished artwork. If you print them in grayscale (or on a black-only printer), they will come out a dim gray. I made them light on purpose, so it’s easy to ignore or color over the lines you don’t want to use.
Dot Grids and Graph Paper

Create Your Own Designs

For more ideas on how to use the dot grids and graph paper pages, check out Kate's blog post Graph Paper Drawing. And Dan's Doodling with Froebel. And Cindy's beautiful Parallel & Perpendicular Art. See if you can make a rotational-symmetry design, like Don's Order 4 graphs—or for young children, fold a page in half and try to create a mirror image. Or play around with number-patterned doodles like Spirolaterals. You might even try following Michelle's directions for How to Draw a Celtic Knot Pattern.

You'll notice that some of the dotty pages come in pairs. A few of the children in my co-op math group complained that the fine dots, which I prefer, were too faint to see. So I made a bolder-dots version of those pages.
Geometric Guidelines

Advanced Tessellation Patterns

Each line or shape on the following pages is a choice for the creative artist, and each page will be different for every person.

- Study the pattern until you find a shape you like—perhaps a star, kite, or triangle. Trace its outline, and then look for repetitions or rotations of the same shape.
- You may want to find a complementary shape or two between or overlapping the copies of your original discovery.
- Trace any additional lines you need to weave the shapes together into a design.
- Ignore the guidelines that don't fit the design you are building. The light blue will disappear under the colors you apply.

For an example of artistic creativity using the guidelines on the next page, look up Muslim Rule and Compass: The Magic of Islamic Geometric Design by Alex Bellos.
Let's Play Math:
How Families Can Learn Math Together—and Enjoy It

All parents and teachers have one thing in common: we want our children to understand and be able to use math. Filled with engaging stories and more than a hundred pictures, Let's Play Math offers a wealth of practical, hands-on ideas for exploring math concepts from preschool to high school.

Your children will gain a strong foundation when you approach math as a family game, playing with ideas. Sections include:

How to Understand Math: Introduce your children to the thrill of conquering a challenge. Build deep understanding by thinking, playing, and asking questions like a mathematician.

Playful Problem Solving: Awaken your children's minds to the beauty and wonder of mathematics. Discover the social side of math, and learn games for players of all ages.

Math with Living Books: See how mathematical ideas ebb and flow through the centuries with this brief tour through history. Can your kids solve math puzzles from China, India, or Ancient Egypt?

Let's Get Practical: Fit math into your family's daily life, help your children develop mental calculation skills, and find out what to try when your child struggles with schoolwork.

Resources and References: With these lists of library books and Internet sites, you'll never run out of playful math to explore.

Denise Gaskins provides a treasure trove of helpful tips for all families, whether your children are homeschooling, unschooling, or attending a traditional classroom. Even if you struggled with math in school, you can help your kids practice mental math skills, master the basic facts, and ask the kind of questions that encourage deeper thought.

Don't let your children suffer from the epidemic of math anxiety. Grab a copy of Let's Play Math, and start enjoying math today.

The Math You Can Play Series

Are you tired of the daily homework drama? Do your children sigh, fidget, whine, stare out the window—anything except work on their math? Wouldn't it be wonderful if math were something your kids wanted to do?

With the Math You Can Play series, your children can practice their math skills by playing games with basic items you already have around the house, such as playing cards and dice. Each book offers more than twenty games and numerous variations, along with practical teaching tips to pump up your child's mental math muscles.

Math games reduce the fear of failure and develop a positive attitude toward mathematics. Through playful interaction, games strengthen a child's intuitive understanding of numbers and build problem-solving strategies. Mastering a math game can be hard work, but kids do it willingly because it's fun. So what are you waiting for? Clear off a table, open a deck of cards, and let's play some math!
PLAYFUL FAMILY MATH
A FACEBOOK DISCUSSION GROUP

Want to help your kids learn math and enjoy it? Check out my new Facebook discussion group, where you can ask questions, share articles about learning math, or tell us your favorite math games, books and resources. This is a positive, supportive group for parents and teachers—and grandparents, aunts and uncles, caregivers, or anyone else—interested in talking about math concepts and creative ways to help children learn. Let’s make math a playful family adventure!


facebook.com/groups/playfulfamilymath

Or get a free copy of my 24-page problem-solving booklet when you sign up for my newsletter mailing list. Plus you’ll be among the first to hear about new books, revisions, and sales or other promotions.