

52 MATH JOURNAL PROMPTS

Task Cards Book #4



DENISE GASKINS

Author of Let's Play Math: How Families Can Learn Math Together and Enjoy It

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Introduction and Tips

“This is the wonderful thing about just thinking and playing with half-formed thoughts: often exciting ideas will flash into your brain when you least expect them.”

—JAMES TANTON

The point of math journaling is to help children explore the world of math in a new way. To enjoy playing with ideas. To value curiosity and creative thinking. And to fight for true understanding, doing whatever it takes to help math make sense.

In a journal, children examine their own concepts about numbers, shapes, and patterns through drawing or writing in response to a question. Journaling teaches them to see with mathematical eyes—not just to remember what we adults tell them, but to create their own math.

Children come to realize that learning is more than memorizing facts and procedures, and they develop a richer mathematical mindset. They begin to see connections and make sense of math concepts. They grow confident in their ability to think through new ideas.

Gather Your Supplies

There is no “right” way to do math journaling. Students may use any bound notebook or loose paper, lined or unlined, or graph paper of any type you have on hand. For written prompts, some students may prefer typing on the computer.

Personally, I love dot grid pages for journaling because I can start a line anywhere on the page, and the dots serve as anchors for drawing shapes or

patterns. My favorite paper has a dotted grid spaced at $\frac{1}{4}$ inch or 0.5 cm. Young children may want wider spacing: $\frac{1}{2}$ inch or 1 cm. Triangle dot paper (isometric grid) is also fun, because it encourages writing at different angles.

The [Incompetech website](#) is a great place to download graph paper of all varieties.

If your students are using a bound journal, you may want them to draw the geometry and math art prompts on blank paper. They can use the journaling page to record what math they see in their design and how they thought about creating it.

In particular, geometric constructions made with a compass and straight-edge (or a ruler) are much easier to draw on a loose sheet of plain paper. For best results, use masking tape to hold the paper in place so it doesn’t shift under the compass.

In addition to your journaling paper, you will find the following supplies useful on your mathematical adventure:

- pencils, both plain and colored
- colorful gel pens
- a ruler for making straight lines
- a drafting compass for drawing circles and comparing distances
- other drafting tools, like plastic triangles or a circle template
- dice for playing games
- a deck of ordinary playing cards, poker or bridge style

Create Your Own Math

When students create their own math, they forge a personal connection to mathematical concepts and relationships. And it's fun!

Children might make up a math game, write a story or poem, draw a comic, or pose a problem. Create math art, think up a challenging question, or write a puzzle. Since earlier chapters focused on writing and math art, most of these prompts involve creating puzzles or problems.

The "Story Problem Challenge" is one of my favorite math club activities. My students invent their own word problems in any style they like. They don't have to know how to solve the problems they create. We read the stories aloud, and everyone works together to find the solutions.

For puzzles where the child already knows the answers (for example, Two Truths and a Lie), let them trade with a friend. Can they each solve the other's puzzle? Can they stump each other? Or save the child's work and let them come back to it another day, after they've forgotten the answers.

And when students create something they're proud of, let them share it with the world. Visit the Student Math Makers Gallery at tabletopacademy.net/math-makers to learn how your students can submit their own math creations.

- 201. Animal Emporium:** If you managed a store for pets and pet supplies, what would you sell? Would you have any unusual animals who need special care? Would you offer training or other services, and at what rates?

Write a story about your store. What math questions might you ask?

- 202. Old MacDonald's Farm:** Farmer MacDonald is an eccentric old lady. She keeps track of the livestock and poultry on her farm by counting heads and feet.

For example: One day she noticed some sheep and ducks down at the pond with 15 heads and 40 feet. Can you tell how many sheep and how many ducks were there?

Make up your own puzzles about the MacDonald farm.

- 203. Silly Units:** Create silly equations using non-standard units. Share your equations with a friend. Can you guess each other's units? Examples:

$$2D = 8L + 2T$$

(dogs, legs, tails)

$$2P + 3C = 1F$$

(parents, children, family)

- 204. Reinvent Your Homework 2:** Find a page of calculations in your math book, or download a worksheet online. Answer each question math-rebel-style: Write any true statement except what the answer key expects. Have fun making crazy math.
- 205. Counting Puzzles:** If I count by twos, I land on both 100 and 1,000. If I count by threes, I don't hit either 100 or 1,000. Is there any number I can count by to hit only one of them?
Make your own counting-by puzzles.
- 206. Magic Math:** Pick any number. Add 5 to it. Double that sum. Then subtract 10. Finally, cut that answer in half. What happened?
Can you make up a magic math puzzle? Try to make your puzzle end at the original number, or else go to one particular secret number no matter what the other person chooses to start with.
- 207. Square the Triangle:** How many different triangles can you find that have an area of exactly eight squares? What other shapes can you find with that area? Can you find a kite? An isosceles trapezoid? An arrowhead? A hexagon? Is any shape impossible?
Make up your own shapes challenge question.
- 208. Invent a Game 1:** Make a math board game. Will the players try to conquer territory, or will they race along a path? How will they move? What challenges will you put in their way to make the game more fun?
Try your game with a friend, and tinker with the rules until you're satisfied.

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PREVIEW