

52 MATH JOURNAL PROMPTS

Task Cards Book #2



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.

- 97. Bus Puzzles:** A bus can hold ___ people. It starts out empty (except for the driver). At the first stop, ___ people get on. At the next stop... Write a story for the bus. What math questions might you ask about your story?
- 98. Half Plus Three:** Four children get pocket money. Each gets half as much as the next older child, plus \$3 more. What questions can you ask?
Make up a fraction-plus-a-little-bit puzzle of your own.
- 99. Fictional Math:** Think of the characters in your favorite story. How would they use numbers, shapes, or patterns? Would they cook, or go shopping? Might they build something? Would they decorate it with a design? What would they count or measure?
Make up some math problems about them.
- 100. Stump an Adult:** Write the hardest math problem you can think of. See if your parent or teacher can solve it.
- 101. What Would You Choose?:** Would you prefer a stack of quarters equal to your height, or a bag of quarters equal to your weight? Why? Create some make-a-choice questions of your own.

- 102. Ratio Puzzles:** The ratio of cats to dogs at the animal shelter is 2.4:1. How many cats and dogs might the shelter have? What is another possible combination? Why can't you know the exact answer?

Make up your own ratio puzzles.

- 103. Lines on a Grid:** Use dotted grid paper. With a ruler, draw a slanted straight line between two dots on your page. Can you draw another line parallel to the first? How do you know it's parallel?

Can you draw a line that's perpendicular? How can you be sure?

Make a design with parallel and perpendicular lines. Color as desired, or fill each section with a pattern.

- 104. Monthly Math:** Create a math calendar with a puzzle for each day of the month. Can you make each answer equal the number of that day?

PREVIEW

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