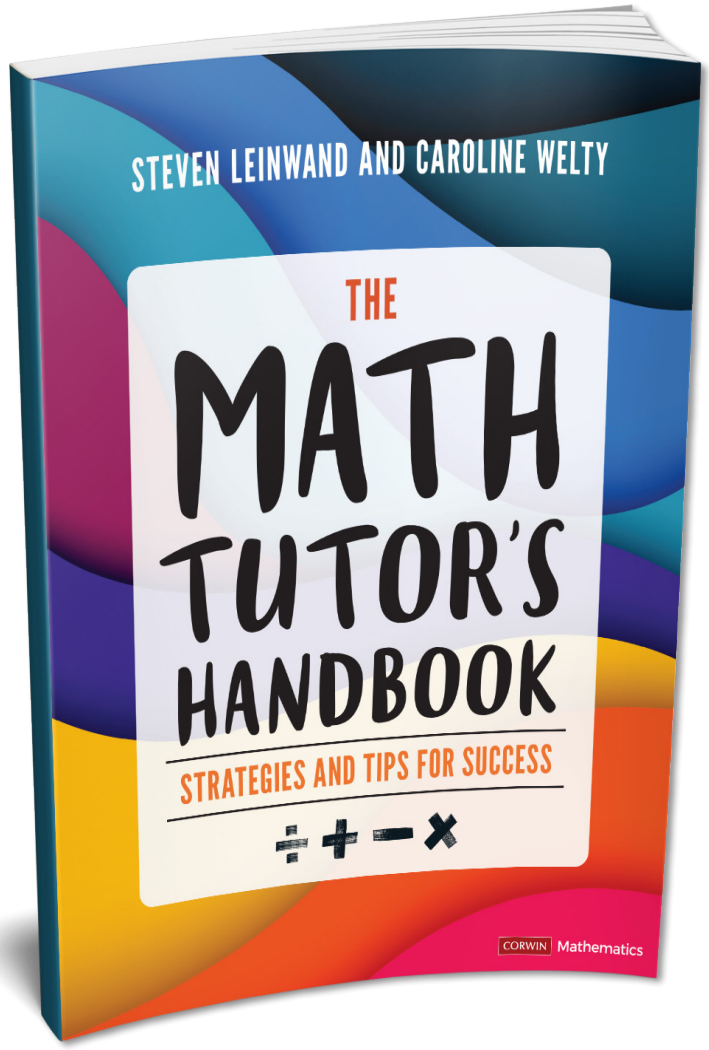


# Thank you

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Please enjoy this complimentary excerpt from The Math Tutor's Handbook.

LEARN MORE about this title!

CORWIN

# Appendix 1

## Parents as Tutoring Partners for Their Children

Not surprising, we have very strong opinions about how parents can support their children in learning mathematics, especially when it comes to supporting their children who are being tutored. If, as a parent of a child being tutored, you have read or even skimmed this book, you realize that effective tutoring involves far more than showing, telling, and getting answers. Many of us marveled at the remote teaching we observed during the pandemic and learned how hard it is to teach mathematics effectively. It is likely we have turned to tutors because we realized we were ill equipped to teach math to our children. We also learned that some of the best learning occurred when we used recipes and measurement tools in the kitchen, played a family game, or searched the Internet for answers to immediate questions. Accordingly, in this Appendix we discuss the proper support role for parents, playing games with our children, and how technology can help.



### Making Mathematics Commonplace

The single most important way that we as parents can be effective teachers of mathematics is to make mathematics commonplace in our lives by calling out and using mathematics in natural ways. For example, we encourage parents to simply do everything they can—at the restaurant, at the gas pump, at the dinner table, on road trips, in the kitchen, in the grocery store, and so on—to make the mathematics of daily life commonplace for their children.

Here are some examples of ideas that parents can use to best support the mathematical development of their children by making mathematics commonplace and fun whenever and wherever it occurs naturally in our daily lives. Questions can be simple and informal, and answers can be responded to with "How did you get that?" or "Share with us your thinking." or "Could you solve that in a different way?"

**At McDonalds or any other fast-food restaurant—**in line or at the drive-thru:

- About how much do you think your order will cost?
- What's the least and most expensive reasonable meal we could order?
- Can we all get a meal and spend less than $20? How?
- About how much should the tax be?
- Is a Happy Meal a good deal?
- Does it make sense to order a large soda if there are free refills?

**At the restaurant:**

- You can spend up to $8 without going over. What could you order?
- So about how much do you think the bill will be?

- What's the most expensive reasonable meal we could order?
- How much should we tip?

**At the gas station and on a trip:**

- So about how many miles per gallon are we getting?
- So if gas is $4.09/gallon, about how much will we spend?
- If we only have $30, how many gallons of gas can we get?
- About how much longer should it take us to get there (looking at mileage signs)?
- If it's 1:30 now, when do you think we'll get there?

**At the grocery store:**

- How much do you think we just spent (looking at a full shopping cart)?
- What fractional part of the items is taxable (looking at the register tape)?
- About how much do we pay per item in the cart?
- What should the scale say if we order 1½ pounds of cheese?
- About how much will three-quarters of a pound of ham cost?
- What's the unit price? Which is the best buy?
- What does it say on the nutrition label?

**At the bank:**

- What's a withdrawal? What's a deposit? Which is addition, and which is subtraction?
- If I have $_____, how much will I have after a deposit/withdraw $_____?

**In the kitchen:**

- Recipes (Can you measure that much out? How much more or less? Suppose we doubled/halved the recipe?)
- Measuring cups and spoons
- Ounces, cups, pints, quarts and gallons, ounces and pounds

**From the newspaper:**

- Graphs and tables
- Sports statistics
- Scavenger hunts (for percentages, for numbers greater than 1,000, etc.)

**Just for fun anytime:**

- About how big is that? (height, width, weight, capacity)
- About how many would fit? (For example: How many dogs could fit in the car? How many McNuggets boxes could fit in the trunk? About how many people could fit in this room?

## Games

Turning to the dictionary, we are reminded that games are inextricably linked to play. "Games are any form of play or way of playing; amusement; recreation, sport; frolic." Games are "any specific contest or competition

involving engagement, amusement, and rules." Our favorite, compliments of the Oxford Learners Dictionary, is that a game "is an activity that you do to have fun, often one that has rules and that you can win or lose." In short, games are activities in which we play. Good games pique our interest, motivate us to engage, and offer an accessible environment for play. While some games are played individually, more games are interactive and social in nature, broadening the benefits of play. And best of all, games are perfect platforms for learning when we don't even realize we are learning. Games also provide a healthy break from screen time for the whole family.

Our recommendation is that every home should have, and play, games that are inherently mathematical such as these:

- Yahtzee
- Cribbage
- Uno
- 24
- Set

Finally, for a wonderfully engaging and well-curated set of games for K–8, take a look at https://www.emeralded.com/elevation-station/.

## Technology

And then there is technology. If only there was the perfect program online tutor or online game that could solve all of our problems with mathematics. If only we could find an app that magically built mathematical proficiency in "only 20 minutes each day!" Sadly, but understandably, even with the advent of artificial intelligence (AI), such programs and apps do not exist. We have argued in this book that effective tutors build personal relationships, use alternative approaches, ask timely and helpful questions, and honor mistakes. Human beings do this and make a difference. We have yet to find technology that meets these expectations.

Even those programs and online games that provide lots of practice do little to tailor feedback or honor mistakes by parsing out what was understood from what wasn't, and they rarely use different representations to help students "see" the mathematics.

That is why, when it comes to getting a real benefit for our time with our children, we turn to milking the commonplace mathematics in our daily lives and to mathematically oriented games well before we turn to technology.

Having said that, we encourage you to turn to any of the sites in Appendix 3. We also love the broad array of Desmos activities and lessons (see Desmos Classroom Activities and Desmos Math 6–A1 | Amplify) that we encourage parents to do along with their children as if they were games to be played. In fact, during the pandemic, when Steve was supporting Caroline's learning of Algebra, we often ended the day with a Desmos activity.

Take a look at these opportunities, games, and programs. Try them out with your child. Play along with them as you would read a book together. Use them to become your child's most important first teacher as you enrich your role as a parent.