

Teaching Math Skills

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When we talk about which skills kids need to succeed in school or in the work world, reading and math are always at the top of the list of "most important things to know about."

If you ask parents what they do to teach their kids to read, they will say: we do bedtime stories every night, we go to the library, we practice reading signs, menus, and labels - they have a whole list of ideas. If you ask them what they do to teach their child math, many parents draw a blank or they protest that they don't know how to teach math, and they're counting on preschool and school to do that.

Can we instead think about easy ways to incorporate math into everyday interactions and play just as easily as we do reading? Here are some opportunities and resources:

Hands-On Activities to Teach Core Math Skills

- Counting / Number Sense
 - You can count almost anything – how many blocks in your tower, how many goldfish crackers on your plate, how many books do we get at the library
 - You can ask: who has more? Divide objects into two piles – which is bigger?
 - Set the table – each person gets one plate, one spoon, five berries, etc.
 - Count money – it's trickier to get the different values of different coins.
- Representation – recognizing that the numeral 5 and the letters f-i-v-e can be used as symbols to represent how many physical objects you have
 - Play with magnetic numbers, puzzle pieces shaped like numbers, make numbers with play-dough, draw numbers in the sand, or have them count on their fingers.
 - Do connect the dot puzzles, games where they have to jump from spot #1 to #2.
 - Make number cards with the numeral and word written on them. When you count physical objects, have them find the card the shows the total.
- Shapes and Spatial Relationships
 - Play with shape sorters, puzzles, nesting cups, blocks, building toys. Make crafts.
 - Talk about (and play games with) positional words: under, next to, between...
- Measurement
 - Cook together, using a recipe.
 - Compare things: ask them to tell you which is biggest, or line up in order by size.
 - Measure with standard units (8 inches) and non-standard (12 paper clips long)
- Patterns
 - Help them notice sequence: first we do X, then Y. After _____, we always _____.
 - Sort laundry and pair the socks. Separate M&M's by color, then make a pattern.
 - Build patterns: red bead, yellow bead, red... Clap rhythm patterns.

For lots more hands-on ideas, just search pinterest for preschool math activities! Or go to

<https://childcare.extension.org/young-childrens-developing-math-skills/>

Sing Counting Songs and Read Counting Books

- Math Songs. Counting songs like 5 Little Monkeys jumping on a bed, or 10 Little Indians, or 5 Little Ducks are all great teaching tools, especially if you have props. A bath-time game with 5 rubber ducks can teach one-to-one correspondence plus the concept of zero (no little ducks came back...) You can find a huge collection of math songs for all ages at www.songsforteaching.com/numberscounting.htm
- Counting Books: There are lots of wonderful options. I like [Roly-Poly Puppies](#), [Pete the Cat – 4 Groovy Buttons](#), [Fish, Swish! Splash! Dash!](#), [10 Rubber Duckies](#) by Winburn, [One Duck Stuck](#). More ideas: www.the-best-childrens-books.org/math-for-kids.html

Turn (almost) any conversation into a math conversation: Check out <https://bstockus.wordpress.com/talking-math-with-kids/>. It has examples of math concepts into conversations with kids in an engaging way.

Bedtime Math: Every night, before the bedtime story, add in a math story problem. You can make up your own based on your day ("Today at dinner, there were 8 slices of pizza. You ate 2, and I ate 3. How many did Dad eat?"). They could be based on the book you just read. ("The Cat in the Hat is holding a book, an umbrella and a fish bowl. How many things is that?" "How many pieces of fruit did the Very Hungry Caterpillar eat?" Or, you can download the Bedtime Math app (it's free!) or buy a Bedtime Math book if you prefer a screen free option. They offer a new kid-friendly story problem every day, with questions appropriate for three different levels of math skills, for kids age 3 – 9.

Sports are a fabulous way to practice math skills. For younger kids, keep the score simple – one basket equals one point. For older kids, make the scoring more challenging: "if you can sink the sock in the laundry basket from here, it's 1 point, but if you can do it from this line, it's 3 points." When watching sports in person or on TV, have your child keep a written score tally.

Restaurant Games: When waiting for your food, try these games. Hide 2 – 5 sugar packets behind your menu. Lift the menu to briefly show them the items, put it back down, and ask how many they saw. Tap on the table 1 – 6 times, and have them set out that many packets. "There are four blackberry jams, two strawberries, and a marmalade - how many total?"

Board games are my favorite math skill builder. They're so much fun that kids don't notice their learning math. Research shows that the more board games that a kid played and the more different settings he played games in, the better his performance in four math tasks.

- There are board games that are [explicitly designed to teach math](#). Some are fun. Some are just flash cards or worksheets in disguise and not much fun for kids or parents.
- You can just play any game you enjoy that happens to have a dose of math included. Here's a list of ideas: www.brighthub.com/education/homework-tips/articles/42512.aspx
- Or make games: http://boardgames.lovetoknow.com/Board_Game_Ideas_for_Math

Let them see you using math. Point out to your child when you use math – to calculate a tip, compare the cost of two items, figure out how long it will take to drive somewhere, or to help them decide what to buy with their allowance. (For a discussion of financial literacy for kids and how to handle allowance: <https://gooddayswithkids.com/2016/02/09/financial-literacy/>)

What Not to Do:

- Don't feel like you need to get flash cards, math apps and workbooks and drill basic math facts over and over. Let math be fun at home, not a terrible bore.
- Don't try to push kids along faster – push them deeper – rather than moving on to the next step as fast as you can, make sure you've really explored each step in depth. For example, some parents push kids along toward counting to 10 or 20. It takes a long time for a toddler to really truly understand the difference between one and more than one. And then to understand the difference between one and two, and more than two. Let them stay there till they really get it. Then they'll be able to master more complex ideas in the future. But rush this one, and everything is confusing from there on out!

For lots more ideas, check out: <https://becomingamathfamily.uchicago.edu/> and <https://familymath.stanford.edu/>