

TOP TEN WAYS PARENTS CAN SUPPORT THEIR CHILDREN IN MATHEMATICS

1. **MANY 21st CENTURY CAREERS REQUIRE A STRONG MATH BACKGROUND.**
Understand that the rigor required for many of the 21st Century careers requires a strong and flexible math background. Being prepared for the workforce requires much more than computation and carrying out procedures. Children need to know how to make sense of the math they are doing, work with others to solve challenging problems, reason mathematically, and communicate their thinking. Today's math instruction and content should look different from the math you had in school.
2. **COMMUNICATE POSITIVE MESSAGES ABOUT MATH.** When talking with your child, try to be as enthusiastic as possible; positive attitudes are contagious. Instead of saying "math is hard" or "I was never good at math," point out that math is exciting and anyone can learn math with hard work. Similarly, encourage a growth mindset in your child by making sure they know that we are all capable of doing mathematics, enjoying success with it, and improving as long as we continue to work hard, ask questions, and learn. Children with a growth mindset do better in school and with challenges.
3. **EDUCATION IS IMPORTANT.** Remind your child that you believe education is important. Encourage your child to use their planner daily, have a regular time each day for doing math homework and/or studying, and provide him/her with a quiet place to work with good light and school supplies.
4. **PRODUCTIVE STRUGGLE IN MATH IS OKAY.** Recognize that it is OK for your child to struggle with homework; **with struggle comes learning.** Instead of showing your child how to do problems, you can help by asking questions like, "What is the question asking? What is the problem in your own words? Have you seen a problem like this before? What do you understand about the problem? Is there anything you don't understand? How did you get your answer? Where can you find the answers to your questions? How can you draw this problem? What do you estimate your answer will be? Why?" If your child's struggle with the homework becomes unproductive, encourage your child to talk to the teacher about the homework and any questions they have. Many teachers offer extra help after school and at lunch as well.
5. **WE CAN LEARN A LOT FROM OUR MISTAKES IN MATH.** Encourage your child to analyze problems s/he did incorrectly. Remind your child that we learn a lot from our mistakes. In fact, research shows that our brains grow when we make mistakes; as Jo Boaler explains in *What's Math Got To Do With It?* "Scientists have found that when people make a mistake in math, synapses spark, and there is activity in the brain that is absent when people get work correct."
6. **ENCOURAGE PROBLEM SOLVING GAMES AND PUZZLES.** Encourage your child to solve interesting problems and puzzles, play math games or with shapes. Jigsaw puzzles, tangrams, Rubik's Cubes, LEGO blocks, dice games, and the games Yahtzee, Mancala and Set are a few examples of great ways to get kids excited about developing logic skills and strategic thinking, as well as solving problems.
7. **CONNECT MATH TO DAILY LIFE.** Look for math problems in your daily life to share with your child, like figuring the amount of a 15% or 20% tip, doubling or halving a recipe, or following the value of a stock on the stock market and having your child calculate the stock's percent increase or decrease each month.
8. **TALK NUMBERS AND STRATEGIES WITH YOUR CHILD.** Encourage number sense (thinking flexibly with numbers) and strategies for finding answers, instead of procedures and rules to follow. When adding $37 + 49$, for example, it's easier to think about $36 + 50$ (since you can take one from the 37 and add it to

49). When multiplying 12 by 14, it is easier to think of 12 as $10 + 2$ and multiply each of those by 14 and find the sum; $10 \times 14 = 140$, $2 \times 14 = 28$, so $12 \times 14 = 140 + 28 = 168$.

9. **KEEP IN TOUCH WITH YOUR CHILD'S TEACHER/SCHOOL.** Take time to learn about your child's progress, and ask questions when you have the need. If problems arise, everyone needs to work together to resolve them.
10. **CHECK OUT THESE ADDITIONAL RESOURCES!** Lastly, check out the following resources for ideas on how to support your child in math.

Books

What's Math Got To Do With It?, Jo Boaler

*Many of the ideas on this handout are explained in more detail in this book

Number Talks: Helping Children Build Mental Math and Computation Strategies, S. Parrish

The Elephant in the Classroom: Helping Children Learn and Love Maths, Jo Boaler

Online Resources

www.cpm.org

www.youcubed.org/parents/

<https://www.youcubed.org/why-we-need-common-core-math/>

<http://www.ode.state.or.us/search/page/?id=3425>

http://pages.uoregon.edu/dps/CommonCore/CCSSM_bygrade.pdf

http://figurethis.nctm.org/fc/family_corner.htm

www.khanacademy.org

Online Courses for Students or Teachers and Parents

www.youcubed.org/how-to-learn-math-for-students/

www.youcubed.org/how-to-learn-math-for-teachers-and-parents

Online Activities and Games for Students

<http://blog.mrmeyer.com>

<https://calculationnation.nctm.org>

<http://numberstrings.com>

www.visualpatterns.org

www.unmacht.weebly.com (Go to "Favorite Websites and Resources" tab)

www.youcubed.org/tasks/

