Supporting Your Child in Middle School Math

*By Diana Goldberg*



As parents, we sometimes forget how confusing, frustrating and difficult middle school can be, and for some kids, math is especially confusing, frustrating and difficult. Being a middle school math teacher, I hear from many parents who want to help their children but aren’t sure how. Whether you identify with the Carla\*, a mother who helps her son too much because she’s eager for him to get good grades or Todd\*, a dad who doesn’t know how to help to his daughter because he “doesn’t understand the math” himself, every parent can benefit from these tips for supporting children who struggle with middle school math.

Before you can help your child, it’s important to understand what is happening (mathematically) to the adolescent brain. Middle school is an exciting time; adolescents’ brains are transitioning from reasoning in a concrete manner to understanding abstract concepts and ideas. According to the National Council of Teachers of Mathematics, middle school math typically begins with concepts such as fractions and decimals, and by the time students’ move on to high school, they have learned pre-algebra concepts, such as manipulating variables and solving or writing equations to find unknown values—ideas that cannot easily be visualized or explained with physical objects. Keep in mind that this is particularly hard for students stuck in a concrete state of mind; they tend to rely on memorizing steps or procedures to solve problems, which can lead to more difficulties later on.

Here are some useful tips on how you can support your child in math:

 **Always have notes from class**, a textbook or other resources right next to a homework paper. If your child gets stuck, she is likely to find a similar problem in one of these resources that can help her move forward.

 **Ensure the student takes responsibility for her own learning** by finding assistance independently; the ability to access help on your own is essential for student success in all areas of academics.

 **Never give children the answers to problems!** By giving away answers, you’re depriving your child of the chance to develop the mental processes required to learn a new concept. No parent enjoys seeing their child struggle, but providing answers could set them up for frustration when they have to tackle more difficult problems and might even stunt their progress as classmates move to more advanced lessons. Furthermore, your child’s teacher will not be able to address the misconceptions or areas of weakness that should be targeted in school if homework assignments do not reflect the student’s level of understanding.

 **Encourage your child to underline or highlight** key words or phrases in situational problems, as these often help students set up a solution.

 **Realize that your child may struggle with abstract concepts if his or her brain is not quite ready** to reason at an abstract level. Your child’s brain will mature in time, and success in math class is likely to accompany this development.

 **If your child is frustrated by mathematics, show him how to focus** on *concepts* rather than *procedural knowledge*. This might help some students approach and solve problems in a different way—one that makes more sense to them. For instance, ask your child to explain one problem in their assignment each night. If possible, choose one that incorporates both words and computation. If your child is simply reciting step-by-step instructions, encourage her to elaborate by asking questions focusing on the “why” of the problem:

 What is the goal of the problem?

 Why does that step work?

 Why would we want to do that next?

 What does this step in the process accomplish?

 How do I know if my answer is reasonable?

 Can I check my work to make sure it makes sense to me?

 **After your child has completed an assignment**, ask her to share what she believes was the most important idea:

 What is the goal of the problem?

 What did these problems have in common?

 Where would I use this in “real life”?

 Why do you think your teacher gave you this assignment? What did he or she want you to learn?

 How is this assignment related to the homework you had yesterday? In what ways is it similar or different?

 Now that you can solve these problems, what do you think you might be able to do next?

The most important thing to convey to your children is not to give up. Mathematical concepts are intricate and take time to fully grasp. Encouragement and patience go a long way. Read a book with your child while she works on homework or finish a Sudoku or crossword puzzle with her at the table while she studies to keep her company—just being in the same room and working on your own mind-stimulating puzzles might make them more comfortable with difficult homework. If your child continues to struggle and you’re becoming concerned, speak with the teacher or another administrative specialist.

For more information, visit [NCTM’s website for families](http://www.nctm.org/families).

\*Names have been changed to protect the identity of the parents.

*Diana Goldberg is a mother, middle school math teacher and tutor in New York. She offers advice to parents and teachers as a way of sharing her love of math and in hopes of instilling that love of math in others.*