Math education has changed considerably over the last several years. Most parents were schooled to believe that math is about memorizing facts, procedures, and formulas, and then using that knowledge to produce right answers on tests. As a result, they struggle with two important ideas that are fundamental to how we wish to teach mathematics. First, we want to teach students that there is more than one way to solve a problem. Second, we want students to understand what they are doing and to be able to explain their thinking.

Given these striking differences, it is no surprise that parents and guardians feel uncertain about how to help their children at home.

H C D G M

Stanford psychologist Dr. Carol Dweck identified two learning mindsets that she called fixed mindset and growth mindset. Her research on this topic is summarized in her excellent book, *Mindset*.

A person with a fixed mindset believes that traits like intelligence are innate and cannot be changed. On the other hand, a person with a growth mindset believes that abilities can be improved with effort.

People with a fixed mindset would say Michael Jordan had an innate talent for basketball. People who believe in growth mindset might say that Michael Jordan practiced more often and more effectively than his peers, and that is what led to his supreme ability and results.

P C P G M

The good news is anyone can change their mindset.

1. Research shows that just knowing two mindsets exist can help children move toward the growth mindset.
2. When your child comes home with an A on a math test, try saying, "I can see how your studying paid off. Great work!" rather than "Wow! You're so smart!" If your child got an A without much effort, try saying, "Looks like that test was too easy for you. Maybe we can work on more challenging problems together." This will teach him or her to value

F L M G

Most parents understand the importance of reading stories to their young children every night. Children's books are whimsical and full of colorful pictures. It's all designed to be fun, not a chore.

Unfortunately, no one tells parents to do the same for math!

Instead of finding ways to immerse kids in hands-on mathematical experiences, parents often get workbooks or flashcards and use them to help kids memorize "math facts." This would be like replacing nightly "reading time", by studying the dictionary. Kids would hate that! And yet, that's exactly what we do to math—reduce it to repetitive drills. The good news is there is an analog to "reading time" called "game time."

Encourage parents to play games at home as often as possible. Playing games helps children develop mathematical skills naturally without turning math into a chore. This is as true for preschoolers as it is for middle schoolers.

f

- They are fun for the whole family
- They are interactive and collaborative
- They take the pressure out of math and put it into meaningful context
- They involve problem solving, critical thinking, estimation, and arithmetic skills

Almost any game you can think of requires planning, logic, and mental math—all skills that are vital to excellence in mathematics. Even a "word game" like Scrabble involves mathematical thinking when placing words to optimize your score. Family traditions are the glue that holds families together. Parents can start a family game night by choosing one night a week to play games. Turn off the TV, the phone and all other distractions and just have fun!

You're never too old to play games. The games listed below are good for ALL ages from KG to 12th grade and on to adult! Yes, even high schoolers can enjoy good games.