

## Overcoming Math Trauma

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What are the symptoms of our “math illness”?

- Meaningless math
- The LIST
- Making math procedural
- The big race
- Fear and stress.
  - The pressure to get ahead has increased. “What will happen if my child gets behind?”
  - We need to reduce fear and stress and create a calm, safe learning environment - a vessel in which learning math is possible.
- Math trauma

Four steps towards math trauma

- Confusion. Everyone experiences confusion when learning math.
- Struggling. Most students struggle with math at least occasionally.
- Frustration. Many students get frustrated with math.
- Shutting down/trauma. Some students shut down and become math traumatized.

Common Pitfalls - Two ends of the spectrum

- Too much too soon.
- Math deprivation.

The three myths of math

- Myth #1. Only people born with math ability can become good at math.
- Myth #2. Confusion is bad. In reality, confusion is part of learning math.
- Myth #3. Forgetting is bad. In reality, forgetting is an important part of learning. In fact, for important topics, it can be said in order to learn it permanently, you need to forget it three times!

What does it take to be a good math teacher?

- The teacher needs to be enthusiastic about learning math. For many teachers, this amounts to finding a new relationship to math. How wonderful it can be to find out that math can be interesting and rewarding!
- The teacher needs to be able to present the material effectively. This is the art of teaching.
- The teacher needs adequate time to prepare for the math lessons. For many teachers, this is the most difficult issue.
- One of the jobs of the teacher is to guide the students through the challenges they encounter in school and in life.

My Core Principles for Teaching Math.

- The Three-Year Plan. For big topics, it usually takes three years for students to master a skill: Solid intro in the first year, practice in the second year, mastery in the third year.
- There’s more to math than just learning skills. Be sure to balance skills work with mathematical experiences.
- Avoid blind procedures; allow for discovery and strive for depth of understanding.
- Make it developmentally appropriate. Education is not a race. If we introduce a topic at the right time developmentally, then the students will be more engaged and learn more deeply.
- Transform struggle into success. Wouldn’t it be wonderful if all of our children could learn how to calmly face their challenges and develop confidence as they successfully work through their struggles?
- Working with questions. Some of the most meaningful math comes from working with questions that live in the students for a long time.