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Description automatically generated with medium confidenceMath Anxiety and Four MUSTs for Addressing It

**Tip Sheet**



**What to do:** Review the information and strategies here to learn ways math anxiety can impact students and ways you can help. Then choose some strategies to try — or come up with your own, based on these ideas.

**Why it matters:** Math anxiety is an emotional reaction to math that produces feelings of tension, apprehension, and fear of situations involving math, regardless of one’s math ability. The anxiety can impact performance and ultimately have long-term effects on education and career choices.

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| **Five Ways Math Anxiety Can Affect Students** | | | | |
| **Learning** | **Mental Health** | **Beliefs** | **Behaviors** | **Career** |
| Disrupts working memory, which makes it hard to focus. | Causes worry and distress; may affect self-esteem. | Makes students believe they don’t like math and can’t learn it. | Leads learners to avoid math activities and advanced classes. | May limit education and career options. |

**Helping Students With Math Anxiety**

Even if you’re not a math teacher, you can use many of the “math MUST” strategies described below (MUST = messages, understanding, skills, and thrills) to help yourself and your students build math confidence and know-how.

**The Math MUSTs**

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| --- | --- |
| **“M” is for Messages** | **“U” is for Understanding** |
| **Messages About Math**   * Math builds mental muscle. * Math’s needed for most careers. * Math can help you reach your goals.   **Messages About Math Ability**   * Effort and persistence matter more than natural ability when it comes to learning math. * Boys and girls are equally capable of learning math. * There are many ways to be good at math. * You can be good at math even if you have trouble memorizing math facts, rules, and formulas. * Faster isn’t smarter, though mental math shortcuts are handy. * Mistakes are learning opportunities. | **Understanding Math**   * Procedural fluency * Conceptual understanding * Problem solving * Number sense   **Understanding Math Anxiety**   * Self-talk * Growth mindset * Metacognition (thinking about thinking) * Sweet spot (not too hard or too easy) * Productive struggle (mental effort) |
| **“S” is for Skills** | **“T” is for Thrills** |
| **Skills for Learning and Using Math**   * Mental Math • Move It   *(manipulatives)* * Picture It *(in your head/on paper)* • Ask It *(get help/  ask why)* * Say It *(talk it through)* • Read It   *(reading skills* * Sing It *(as a memory aid) and math   vocabulary)*   **Skills for Managing Math Anxiety**   * Breathing techniques * Progressive muscle relaxation * Walking meditation * S.T.O.P. (**S**top, **T**ake a breath, **O**bserve, **P**roceed) * Self-talk: Be your own coach * Write it out * Pomodoro Method (focus 25 minutes, break 5 minutes, repeat) | **Thrills in Learning About Math**   * Discovering math can be interesting, relevant, and amazing (I-R-A) * Gaining a new math skill or understanding   **Thrills in Overcoming Math Anxiety**   * Feeling more confident and less anxious about math * Opening doors to academic success and career possibilities |

**Ways to Reduce Math Anxiety**

**Use a three-pronged approach to reduce “brain fog”:** To increase math understanding and confidence, focus on activities that build students’ conceptual understanding, procedural knowledge, and problem solving.

**Keep it relevant and amazing!** Positive experiences with math build students’ curiosity and interest. You’re investing in students to ensure real-life payoffs today and in the long run.

**Use math anxiety erasers:** These practices help students unload worries by recognizing and acknowledging them or even writing them down, and then telling themselves they’re “excited” instead of “anxious” whenever nervousness begins to creep in.

**Employ math mindfulness:** Keep an eye out for signs that a student may be experiencing math anxiety and needing immediate attention and support. Help those students implement strategies that work for them.

**A Not-So-Fun-Fact**

You can have performance anxiety or test anxiety in any school subject, but math’s the only subject with its own anxiety-related definition in the American Psychological Association dictionary.

**Avoid the math monster:** A math hurdle, mental block, or fear can have a negative influence on motivation and achievement. When adults feel frustrated while providing homework help or they somehow give negative messages about math, it can increase student anxiety.

**Look for math moments:** Stay alert for opportunities to create interesting, relevant, and amazing experiences in the moment or “on the fly.” Look for math in the world around you and make students aware of it, too!

**Enlist people and resources:** People, places, and resources in the community and online can help you and your students find the fun and banish the fear when it comes to math!

To learn more about the math MUSTs, see these tools in the 21st CCLC NTAC Math Toolkit:

* Math **M**essages That Build Confidence
* Math **U**nderstanding: Helping Students Think Conceptually
* Math **S**kills for Students to Learn and Practice
* Math **T**hrills: Putting Fun Into the Equation

*Nothing in life is to be feared;   
it is only to be understood.*

—Marie Curie



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