



Episode #119:

**Adrienne Meldrum on Dealing with
Math Struggles Faced by Differently Wired Kids**

July 31, 2018



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Debbie: Welcome to the TiLT Parenting podcast, a podcast featuring interviews and conversations aimed at inspiring, informing, and supporting parents raising differently wired kids. I'm your host, Debbie Reber. Today, as we're getting into that back to school time, we are going to be talking about one subject that can be challenging for many kids, but can be particularly tricky for a lot of differently wired kids. Yes, that's right. I'm talking about math. If you're a longtime listener of this podcast, you may recall that a few years ago, the order operations and Asher's refusal to respect it due to it's arbitrariness shut down our homeschool for several weeks, so complications surrounding math and differently wired kids is a conversation that is near and dear to my heart, and if your child struggles in any way with math, whether with perfectionism or making sloppy mistakes, struggling to memorize math facts, getting stressed out to time to math exercises, you will definitely get a lot out of this episode.

Debbie: To break it all down for us. I brought onto the show Adrienne Meldrum, founder of Math for Middles a virtual tutoring business, whose coaches have training in multisensory math techniques and special training that helps them work confidently with middle school math students who have diagnosed and undiagnosed learning differences. Adrienne has experience working with students who struggle with executive functioning, ADD, dyslexia, poor working memory problems and Autism and in our conversation show explain why certain math concepts can be challenging for these kids and give us strategies for where to start to support the kind of learner our child is. Before I get to the episode, I am overdue for a shout out to some new supporters of this podcast. Thank you so much to Mary Ann Hawk and to Mairin for becoming new patrons of this show. Through Pateron. Your contributions and that of other supporters are helping me pay my awesome editor, Donna, who takes my recorded conversations and intros and outros cleans them up edits them, tags them for itunes, and uploads them onto my Soundcloud account.

Debbie: This literally saves me hours of time each week and it allows me to focus on all the other pieces of keeping TiLT going and supporting this community. So if you get value out of this podcast and want to join Marianne and Marin in supporting it, please consider supporting my Patreon campaign. Patreon is an online platform where you can register to back the show by making a small monthly contribution less than the cost of a latte at starbucks. Each month can help a lot to sign up. Go to Patreon.com/tiltparenting and you can also find a link on the TiLT Parenting website on any of the show notes pages.



Debbie: Lastly, in the past few weeks I've had the pleasure of doing some virtual book club visits with some online groups who are reading my book *Differently Wired* as a group. I love doing these kinds of visits that were Facebook live. It's a chance for me to learn more about what's resonating with people and it gives readers a chance to explore some of the places where they might be feeling a bit stuck and really have access to me and asked what they want to ask. So if you're reading the book as a group online and you would like me to join you for a Facebook live or a Facebook chat, just send me a message via the TiLT Parenting Facebook page or email me at debbie@tiltparenting.com. And we will see what we can work out. And if you're looking to read it as a group for an In-person bookclub in your community, I would love to find a way to skype into your group, if that makes sense, if we can figure it out timing wise. So if you go to tiltparenting.com/book and scroll down, click on the learn more button where it says "is your book club reading *Differently Wired*" and it will have you fill out a short questionnaire to get details and we'll see what we can do. So thank you so much. And now here is my conversation with Adrienne.

Debbie: Hey Adrienne, welcome to the podcast.

Adrienne: Hey Debbie, good to be here.

Debbie: I'm looking forward to this conversation. It's kind of a different topic for us, but when we were emailing back and forth I was like, this is actually super practical and I hope will be of great benefit to the listeners. So thank you for coming on to talk with us about this today.

Adrienne: Absolutely. I'm really excited to share what I know about it.

Debbie: All right, so before we get into the meaty meat of the conversation, just give us a little background about who you are, the work that you do in the world, and you know, my favorite question, your personal why for doing that work.

Adrienne: Oh Great. Yes. So I'm Adrienne Meldrum. I'm the owner of Math for Middles as in middle schoolers and we focus on providing multisensory math for differently wired children, which I love that phrase, Debbie. I love that phrase, I'm going to use it the rest of my life. I think it's amazing. And we've been doing this work all online since about 2016, but before that I was a math tutor privately since about 2006. And over that time period, I was always really driven to find out why, why doesn't the student understand?

And I was always looking for different methods and different ways to serve these, these middle schoolers. And it was then that I stumbled upon multisensory learning through ASDEC.org. There's some, there's other services out there that provide training, like Making Math Real, but it really liked as deck because they have a dyslexia spin on it. They, you know, language is a really big part of math and I love how they teach it. So I've gone through all of their training and I've been using that with my students and we've had some tremendous results and I really love the work I do.



And so my big why though is I'm all about finding and seeing those unseen children in the middle school years. So typically a lot of my students find me in sixth grade because that's when it all falls apart. They go unseen, K through 5 and then it just hits a wall. It falls apart. And I love it when a family finds me and connects because we just, we make a difference. We turn it around if I can capture them in middle school, math is a much less unbearable experience. It's a better experience. They're happier and we provide kind of like an anchor in their life through the rest of their schooling years. And I recently had a student tell me, she's hoping that I can just come with her to college.

Debbie: Wouldn't that be nice.

Adrienne: That's what I thought.

Debbie: Why is it in middle school that things tend to fall apart? What is it about the middle school years that's so specific to this work?

Adrienne: Yeah, absolutely. So K through 5, what's going on is students are building this foundation of number sense. They're, they're learning everything from how to add and subtract, multiply, divide, how to do fractions, those kinds of things. The place value system. And a lot of it's more, you know, you'll see math manipulatives in the classroom and things like that that are going on and they're trying to build this number sense. And by the time they reach fifth grade, every educator has to just assume when they go into sixth grade that they've got this, they have this number sense and I know that is not what happened.

And so they get to sixth grade and on top of having to change classrooms, keep track of different expectations from various teachers they are going into a sixth grade classroom, having to learn new information and the teacher has to assume they know all the basics and they can go forward teaching the new. And the fact is they aren't prepared, they're not ready. And so many of my students, when they come and find me, there are two to three grade levels behind and so a lot of my time is spent filling in those gaps and going back and give him them rich, multisensory experiences so that the math coming at them is easier. And so it just tends to fall apart.

And if I can, like I said earlier, capture them in sixth grade, things go a whole lot better. But if we wait until they're a sophomore, junior is a hard sell, they are so damaged and beat up inside about their math abilities. It's really difficult to get in there and make a change. And so we're pretty intense during those six and seventh grade years. And then we stay on usually with students to help them, but as I said, we're the anchor for them and they know that we already understand how their brain works and so they rely on us to help them get through all of the math years ahead of them.

Debbie: So I'm just kinda curious then, what is it that prevents the students from learning these skills and the elementary school years like to be two to three grades behind, yet they've still progressed on a grade level, you know, matriculated to



the next year. What is it that's preventing them from coming into sixth grade with that foundation intact?

Adrienne: Absolutely. So let me first correct. Many of them are not coming in at grade level. Our system is super broken. So what happens is before a student can even qualify for services, they have to fail standardized testing at a state level many years in a row, which is really unfortunate. And so they keep passing these students on knowing full well, they don't have all of the skills they need. And so it's super frustrating for me because for years these students, most of them starting in second, third grade, they know they're bad at math, they know things aren't going well, but they're stuck fighting the system.

This is the story that plays out every time we have a new student call, parents are telling us, well, for years we've been battling the school and they won't give us the help we need. So part of it is it's a broken system and teachers don't have at their disposal the tools to recognize what they can do to help the student keep putting in filling in these gaps that they're having. So, but some of the reasons why these students fall behind, is there differently wired. So for like a dyslexic student, so with math, what ends up happening is for the dyslexic student, it's a word retrieval practice actually. It has really nothing to do with math per say, a student that struggles to retrieve words and remember those things. It's going to struggle to remember their math facts. And so typically you see this popping up third grade, they're really struggling to remember even just basic addition math facts to multiplication ones.

Adrienne: And that's a big deficit because the brain spending all this time trying to remember because we don't really allow students to use calculators or anything like that in the younger grades. And so they're using all this mental bandwidth. And then when the teacher's trying to teach something new, they're spending time trying to remember what six times eight is over, what new information is coming in to apply. And another thing that happens to is teachers tend to teach the way they saw being taught. Even with the, with the implementation of Common Core, which is way more in line with what multisensory math is.

Unless teachers have full buy in, they're not using math manipulatives like they should, which is the concrete part, to give those students a better number sense. They need that sensory input to understand place value. You know, how much a quantity really is to understand what a thousand is, what a million looks like, they don't know. And so it really inhibits them to move forward. And then if for another example, if we have a student who struggles with executive function skills, keeping track of all of the steps for doing long division that's really hard for them. It's abstract, it's confusing, they're not keeping track of the steps and they get them all confused and it causes a lot of errors.

And so teachers are moving at a quicker pace and spending time in abstract and then our system's broken. Those are kind of the three things that are at play here that caused so many problems down the line.



Debbie: So I'm curious then. So before we kind of dive deeper, you've mentioned the term multisensory math a few times. You just talked about the importance of sensory input using math manipulatives. So can you explain that further for people who may not be familiar with what that is? You know what multisensory math is?

Adrienne: Absolutely. So during the 90's they were doing a lot of research about how the brain learns math. So in the 80's it was, you know, the reading wars. In the nineties it was math wars and they learned that the brain learns math best when we start with the concrete, so that's stuff we can touch. And then we moved to representational images and then we move to the abstract, which is just numbers and you and I learned to math mostly abstract, right? I can't think of a time that I remember playing with manipulatives at school. It was always just numbers on the page. And so that's, that's part of it is we systematically moved through those and that's in line with the universal design for learning. I don't know if you've ever heard of that. It's called UDL. And so these are the hallmarks of what makes the multisensory experience so rich. It also falls in line with, you know, the OG method for reading, but the visual, auditory, kinesthetic, they go together.

And so that's the framework we use at math for middle school students is we always start with the concrete. We mail things to our students and they work with those items in real time. We all have the same things. And then we moved to just images for a long time and you would be amazed at my students will often do really, really well those first two. And then once we get to the abstract it, it gets really hard. And so it's a really important thing. And so multisensory math instruction is appropriate for all students. Every student could benefit from learning this way, but it's essential for some, it's essential for those kids who struggled to read who maybe have like a low working memory issue. Even autistic students can benefit from it. Kids with ADD, those kinds of children really need those multisensory inputs into their mathematical side of their brain in order to do well in school.

Debbie: So can you give like a concrete example of a math concept and what it would look like in that concrete approach? A representative approach? and the abstract approach? So we make sure that we're tracking your description of that process.

Adrienne: Yeah, absolutely. So I'm going to start with something really basic. So let's say it's 2×5 . So for the concrete step, they you could use counting bears, you could use skittles, M&M's, anything like that, and you're making either 2 groups of 5 or you're making 5ve groups of 2 and the students read it with their hands that 2×5 is 10 and so they can visually see much that is what is that quantity. But as the numbers get bigger, using a concrete method there would be really difficult, right? If I was doing 100×2 , it could get really out of control fast. And so that's where place value blocks come in to play.

I, if you're in a traditional school, you've seen teachers using these and they'll do area multiplication where the student is building down one side, you know, 10 and a 2 and then you know, across the top. And so they're building out those things. And if you go to my instagram account, you can see these visuals. I know



it's kinda hard when you're listening auditorily, if you go to Instagram, I post pictures like this so you can see what the concrete looks like. So back to our 2×5 example from there, if I'm drawing it, I'm drawing an area model of 2 and 3 and it's a, it's a rectangle, it's short on one side, 2 up and 5 over, and they can see if we were doing on a graph paper, how many squares are on the inside. And so we use that way with the representational and then the abstract is just the numbers 2×5 . So if you think about back when we were in school, we're learning these math facts. We all did what... flashcards and it was just 2×5 and we had no other visual cue to help us remember what that math fact was.

Adrienne: And so that's why flashcard rote memorization really can fall apart for students like these because they don't have a number of visual in their mind to help them remember what that math fact is. And so when we teach math facts, we're doing lots of hands on things. We're doing things with dice and dominoes, beads and strings, place value blocks. We're doing lots of different ways to put that input inside of their brains so that they can remember the quantity quicker for the abstract down the line.

Debbie: Super interesting. Okay. Thank you for doing that. So you talked a little bit about some of the reasons why differently wired kids can struggle so much with math specifically. So you talked about kids with learning differences like dyslexia and then also the executive functioning, which I hadn't thought about that before, but it makes total sense. There could potentially be challenges and remembering the steps. I'm wondering what are some other common challenges that you see differently wired kids have when it comes to approaching their math?

Adrienne: Oh, absolutely. So one thing that comes to my mind is anxiety. If you. Even if you have a kid who doesn't necessarily have any other learning disability, but they're an anxiety type kid, I have one with generalized anxiety and so it can really make learning in general hard because they want to be perfect and if math is leaving a little bit difficult, the anxiety sets in and so multisensory can give that student, like I said, the input that they need, something they can rely on. They can physically touch to really lower that anxiety and there's other things that you can do to that's multisensory friendly and some of these things I'll talk about later, but you could put fewer problems on a page that limits overwhelm. I know my son melts down when he gets handed a math pack that has 10 pages of problems. It's too much and so what I do is I rip it apart and hand him one page and he can do that page and then we take a little break and then we pull off another one and I hand them that page and so it's really scaffolding and breaking it down slowly to get the work done and prevent any anxiety.

And overwhelm and even anxiety obviously can interrupt the testing process. I have students that have other learning disabilities and anxiety and it really creates a giant mess for them so much that they're having a physical reaction. They're throwing up the night before a test there. They have headaches, they're, I, I don't know how these kids do at a school and they, they're so stressed out. But when we have some special things in place in their IEPs or their 504's like unlimited time for tests these students can perform if they know there's no limit

to how long they can take to finish this test, they can do it if we remove that barrier of time.

If they can have some sort of graphic organizer to help them remember the steps so that they're not having to rely on that retrieval. It's just there to help them. Those kinds of things really limit anxiety. And those are the things we do at Math for Middles. And then I think too, maybe some parents might have heard the phrase dyscalculia or dyscalculia depending on where you live. I think often a lot of students were misdiagnosed actually because to be truly dyscalculia you have struggles with a sense of time and grasping money and directionality and those things affect everyday life.

Like the student really struggles to go to the store and pay something or doesn't really know when they should get ready for some event that's maybe an afternoon and so they might get up really early and get ready when they don't mean to and even think about driving driving's a very directional heavy activity and so driving can be really hard for students like this. Often what gets in the way of a student doing better is their working memory, their executive function and their ability to process language and so it actually is pretty rare to be diagnosed with Dyscalculia, but you know those other learning disabilities really have more play in your ability to do well in math.

Debbie: So I have a lot of questions and yeah, well I'm thinking a lot of these are just things I personally went to know, so I'm hoping that they are things my listeners would ask you if they were sitting in this chair as well. I'm curious about, you talked about math facts. I will say that was something that we really struggled with for years and you know, I had this idea in my head that you must know your math facts, you will learn this and then it was creating so much stress that finally I was like you know what, here it is, like, let's put it up on the wall. You refer to this when you need to. So things like that, or you know, you talked about the retrieval, like having the steps written out as an accommodation. You can ask for an IEP. The steps written out for long division as an example. I'm just curious, your professional thoughts on is it okay to use those things? Like is it necessary that all kids memorize math facts? Is it necessary that all kids get to a point where they know in their head what these steps are? Is it okay to rely on these other external reminders?

Adrienne: I love that question. Yeah. Yeah. Because we were, we were raised so differently, right? I think it's okay, personally, always the goal will be for them to do it independently, but that takes time and it can take a lot of time and they may never get there for all of the math facts. They may get there for 80 percent of them. But there might be some that just always tripped them up. And so having those resources available to them I think is a good thing. The reality is when Asher is an adult, right, he's going to have a calculator in his pocket, so he's gonna use that and that's okay with me. So we spend time teaching calculator skills because the way you enter it in also makes a difference. And so I think things like that are helpful. It's like, to me it's almost like if a student had a hard time seeing and I'm like, no, you can't have glasses. You know, so they really need those support items to help them lower the anxiety and rely on what they do know



until they have a little more confidence, but it's okay for students to have those things. Graphic organizers. I can see a teacher's hesitancy to allow it, but many will allow a math fact chart, you know, with up to 10 as the math fact on each side. And that's just fine.

You know, if the student knows how to use it, it's okay. They're okay with something like that. They might be a little more resistant in the higher levels of math. But I always encourage parents to ask for it. It doesn't hurt, let's say it's like factoring a polynomial. They might be resistant to that, but my graphic organizer I share with families, the student would have to know how to use it and it just walks through their thinking. I'm not telling them exactly how to do it. They have to know the language, if the, what the coefficient and what terms are. So I had to have done a good job teaching those things for that, that tool to be effective and so I don't feel like it hurts the student, it only benefits them and I also think it's an empowering thing to teach, teaches the student to speak up for what they need and we as adults, we could all learn a lesson from that. Right? We all need to be able to speak up for what we truly need and having these tools available to them gives them a sense of empowerment in my opinion.

Debbie: Yeah, I love that. And you know, I'm reminded of a TED Talk I watched a few years ago and I have the worst memory. I don't remember the person's name. I like, I have no details for you and I will find it and share it on the show notes page. But it was from a math instructor who taught. I don't know if it was middle school or high school level students, but the, the gist of the talk was that the goal isn't for our kids to be able to perfectly answer question, but rather how to look at a problem and know how to approach it, and I'm, I don't know if I'm saying that correctly, but it was more of being able to understand how to solve something as opposed to following these exact steps per instruction, but it's that looking at something and understanding it. Would you agree with that or what are your thoughts on that?

Adrienne: Absolutely. Being able to look at something and reason through their approach and the answer, is that correct? And they could they use estimation, right? Is that about right? And that's a really powerful skill to have in your back pocket. Joan Bowler is a PhD professor, I think at Stanford. She's going to be mad if I don't remember, but anyway, she's great. She talks about how we have this crazy notion, like you said, that if you do math you should be doing it with precision and speed and that is so far for the truth. Most mathematicians are slow and laborious and make mistakes, and so we need to instill in our kids it's okay to make mistakes. It's okay to be slow and it's okay to need to write everything out. We do not need to do it in our heads.

And so I'm constantly saying these things to my students. They're watching me make mistakes. They love to call it out on me. Recently I was doing multiples of 2 with a student and suddenly my brain switched to 3 in the middle and I don't know what happened and it was embarrassing, but we both giggled and laughed about it and you know, it just relieves a lot of pressure to be perfect and they get this notion of perfection starting around third grade with those timed math tests that they believe, oh, this is what a good math student does. They do it quickly



and perfectly, and that is the furthest thing from the truth. We're searching to make students great problem solvers. The ability to estimate when they're correct and to persevere through something when it's hard. Those are skills. I think all of us could agree on a student needs.

Debbie: So my question for you then is what about kids especially gifted kids who fancied themselves quite the math whizzes and many of them are, I'm quite certain, but who have this idea in their head that they should be able to do everything in their head, right? That they do need to be fast, that writing things out is for weak people or whatever is going on in their minds, but you know, I need to be able to do this in my head and quickly and then consequently maybe are making sloppy mistakes. But how do you help a student reframe their thinking when they're so attached to that idea that doing things in their head is a sign of their intelligence?

Adrienne: You know? For me it's all about being a good example of that. So often. I think some of that comes from parents too. So you have to be really careful, parents, about what you're showing your kids and what you're expecting from them. And so they might get that notion that you're talking about that it needs to be all in their head fast and with precision. And so students that are like that, I try to get them to take a step back, show me what you're thinking is, I'm impressed. You can do it in your head. That's really cool. You need to show me though, and that's an important skill you're gonna have to be able to do out in the workplace. You're going to have to show people your thinking because not everyone in the room is going to follow you. And also if you force your students that are gifted to go backwards and show concretely, let's say fraction division is one that makes kids fall apart actually because they're relying on the procedure which is you keep the first fraction, you change it from division to multiplication and you flip the last fraction, right? That's a really easy procedure for them and they remember it, but if I ask them to do it concretely with men, a manipulative in front of them, they would not be able to do it. Most likely. That too is a humbling experience. Sure you have this procedure, that's great, but can you explain the why to someone else? And so that's a powerful thing to and I think it's important to talk to kids about understanding the why. Why are we doing this today? A lot of times in my lessons, and we'll talk about that. Why am I talking to you today about adding two different fractions with different denominators? When would we apply this and really get into the why. I think it's an important question to explore with students and helps them to really think deeply which we want for our gifted kids to think deeply.

Debbie: Okay. So you totally sent me up for this next question. Nicely done. So again, bringing it back to me, I'm no longer Asher's math teacher. I will just say that right now. It, it was creating a lot of stress and I was not keeping up with the math. So I've handed that off to my husband who's rocking it as a math teacher. But, in the last year that I was doing it. One of the things we kept coming up against is me, I, we were working from a bucket where we're using Singapore Math and I was teaching it the way that I was instructed to teach it and often Asher would have his own way, his own way and there was there was a lot of conflict happening and the disconnect between those two and a friend of mine who's an educator had said, listen, it's great for him to have his own way. Ask



him to explain it to you as long as he can explain his process and it works consistently. That's great. And so I'm wondering what are your thoughts on that? Is it okay for our kids to find their own way or do you feel that there's value in understanding it through many different modalities?

Adrienne: I completely agree with your friend. I celebrate my students when they have a really wonky way of coming up with was 6×8 is. And what they might do is they go you up to 60 and then they have all these tricks to go back down until they can figure out what's 6×8 is. I celebrate that. That's great. That shows me that you have multiple ways of arriving at the answer. But with that, I agree. If Asher can explain it, that's perfect. But I also think he needs to hear your side of it, why we do it this way. And often I talk about efficiency. This is more efficient in the long run. This is the standard way that most people will understand that. So if you can understand and know how to do this way too, you know, hats off to you. That's amazing. And so going back to that why again, you know, especially autism students, they have to know why or it's going to drive them crazy. Don't ask me to do this really crazy way unless I understand the why. And so if we can tie that back into, you know, the standard way, it's more efficient. I think it helps a lot of students understand why you're asking them to do that.

Debbie: Okay, great. Thank you for that answer. And so I want to talk a little bit more about the IEP. So you talked about some of the things that parents could advocate for, including unlimited time. I know time tests can be a nightmare for so many students and doesn't reflect their ability at all, but it seems to be, especially in the earlier elementary school years is just what you do, right? Math drills, math facts even some of the online programs that students are asked to do at home to supplement often have a time component to it. So, what are some of the other things that parents can be thinking about creatively when they're trying to get support written into their child's IEP or 504?

Adrienne: A couple of different things. I think I mentioned graphic organizers would be a great one to ask for that they can have an out during a test during, you know, a quiz, something like that. Anytime that there's maybe a more time component to it because it would support them in remembering. So graphic organizers is a good one. Calculators and just kind of running through my list in my head. Another really important one that I think is a little bit hard to get, but if you can get a school to agree to it, it will make a big difference, which is more space on the paper. So ample space for work. So instead of having 32 problems on one page, it's four problems per page, which just sounds crazy, right? Oh, all the copies. That's too much. These students that struggle with math, most of them have really sloppy handwriting, so having that ample space to write and show their work is going to be really helpful for them. And a lot of errors are made from having to take a problem from the paper and transfer it to a different piece of paper. Even that process of copying from one page to another errors can be made.

Adrienne: Yeah. And so if we can ask for fewer problems on the page for tests and homework, and even reduced homework, instead of assigning 52 problems in the middle school, let's do 15 instead. And that typically helps students to limits



the overwhelm because me as the tutor, my goal is to get them to really understand why we're doing this, how we can do it more efficiently. And so we're spending a lot of time doing that instead of mindlessly going through these exercises. They're not retaining as much. And so if you can ask for reduced problems, that really, really helps. Um, other things you could ask for would be a notes you could ask if this is a long shot to you, but it doesn't hurt to ask if the student can have access to a classmate's notes, meaning they copy them and the teacher gives them to the student.

So there's a little bit of, you have to be careful there as far as like the student notes that you're copying. They need to not know it's for your child kind of thing. The teacher has to be totally committed to trying to keep that anonymous so that your, your student is not embarrassed by this because if your student, has dysgraphia really struggles with writing or it's really sloppy, is unlikely they're going to take notes. But they really needed notes so they can remember what the teacher said, so that's something you could do. Another thing you could ask for is to be able to record the lessons, what the teacher's saying, which is a really far stretch, but it doesn't hurt to ask. That's always my mantra is it doesn't hurt to ask what's the worst that can happen? They say no, and we'll find a different way to get your student and the help that they need.

Adrienne: Of course you can use a calculator thing, but like I said, unless they understand how to use a calculator, it's not going to really benefit them that much, but for some kids just having it there to be able to write in 6 x 8 is really helpful and then you can ask for math fact chart, a quiet place to take the test. Maybe it's out in the hallway, away from distraction. Some students get really panicked just by seeing other students walk up front to turn in their test and so being out in the hallway and being away from that stimulus of someone moving next to you can really help with focus and so those are some of the things that we, we ask for the last one I'll mention is ability to use. There's this app called Modmath. I hope I'm saying it right. It's for kids who really struggle with the writing part or lining up the columns by place value those kinds of things. You click into it on your iPad and it's like a grid and you can type in the numbers and so that speeds up the processing to because they're not having to spend time writing these numbers and for some kids reversals are still hard, right? They still inverse things or they right multiply instead of add. And so those kinds of errors typically can go away just by using this iPad.

Debbie: Wow. So many good ideas and interesting ones. Like the one about giving more space like that just seems so simple and doable. And of course, yeah, because yeah, the writing can be all over the place and even like a child who's struggling with sensory input or just might be overwhelmed. Right by all the, all the numbers on the page. Just having that white space is probably very calming too.

Adrienne: Yeah. Another interesting idea too is to have instead have it copied on white paper. You could pick pastels. There's some research about that too. So these are like little easy things you can implement that aren't too hard for a teacher to do. If you get pushed back on the four problems per page, you can definitely offer as a parent to help with that. Say, you know, if you'll email me the homework



assignment, I'll make sure I type it up so that my student can do that. Or you know, offer to help in any way to make the job easier for the teacher. Things will go a lot better.

Debbie: Yeah, that's great advice. I just wanted to quickly ask about the homework and the more drills, you know now that we're homeschooling so Asher doesn't have math homework at the math is done in class, but when he was in school there was a lot of worksheets coming home and just so many problems. And what is your take on that? Just I know that repetition is the key to mastery. Like I get that, but at a certain point, is it too much or what do you, what do you say about that?

Adrienne: Oh, absolutely. I, we know there's research, right? That homework is useless grades K through 5, at least even 6th grade I would say. And so here where I live, we've seen reduced homework, but before that really came into play as a parent of a kid with this anxiousness, I have one that has executive function issues. So task initiation was really hard for him. I had no problem going back to the school and saying, we're not going to do all of this. We're not going to do this 10 page packet with 32 problems per page. I'm sorry. I realize in your mind you're thinking we can just do a page a day that's not going to work for him, so teachers sometimes don't like that the teachers may give you flack for that or treat each child differently, but I think it's inappropriate to push it that much repetition on a student, especially like for a dyslexic student, if we can really drill down the why and how to do it, they can master that and drawn it as much as they want. But if we beat them down with repetition, it just takes any joy out of it for them and that they are not going to be as willing to access what they do know how to do. So. I'm all for reduced homework. I realized that the homeschool, you're probably just relying on what you remember doing. I would say fewer problems is just a good rule overall and if your students showing you know, really good proficiency even, you know, there may be they don't have a learning disability, but they're showing proficiency with that topic. I don't think you should drill it in, but maybe answer. Yeah, yeah, you can, you can go and revisit it, see if they're retaining it four weeks down the line, go back and see if they're remembering it and if they are they're good as gold to keep going, but don't, don't beat them over the head with that.

Debbie: I love that. Okay, good. So I just and I want to be cognizant of the time here, but just quickly, what about, you know, what I hear from a lot of parents and friends is just like the math homework where the child is really frustrated in the moment. Like I don't know if that's something that the work that you do with families entails, is just like helping parents know how to work through that sense of stuckness in the moment with a concept that's not resonating or maybe the child's getting really upset and the parent is getting frustrated. Like, do you have any advice for those types of circumstances?

Adrienne: Oh, absolutely. I have. Anytime someone brings this up to me, I always think of this cartoon by Adrian Hedger. I don't know if you know her. She's Hedger Cartoons. She's hilarious. She's got several funny homework ones, but just, you know, about my arms are broken. I can't do this math, you know, or they're screaming and crying and you end up wasting three hours waiting for the



tantrum to stop. So I, I hear you, I've been there. I've done that. I've watched my child burn holes through paper, erasing things. Just, you know, it's hard. First and foremost, you have to accept that you can't change what your child's going through, right then. They're having a physical sensation, right? Fight or flight. Math is threatening my life right now and I hate it. I hate his guts and I'm going to run away from it and we have to remember too that all learning is processed emotionally first.

So if you come in hot and heavy like, hey, we're going to get in here, we're going to get this done there. You're going to get a lot of resistance because they're feeling threatened already and your intensity doesn't help the situation. And so you gotta keep yourself calm and neutral. And I'm Michelle Eckerd. She wrote this book called, Oh Gosh, the name's escaping me on the spot. I'll think of it, but she talks about the neutral face. You when you're 12, you have this inability of reading facial expressions correctly. It's all gone because the front part of your brain is under construction, so they're looking at you and your curiosity or frustration with the problem with the problem, not the child comes through and your child thinks they're angry at me, they hate my guts, and so they're emotionally processing. All this information and homework just explodes on you because you were seriously curious about how to solve this problem or why did the teacher pick this way?

Adrienne: I'm not really sure. So try to keep your face neutral when you're working alongside with your child. So those are things that all involve you. You're a big part of the drama actually, so you've got to keep yourself in control.

Debbie: That's the case with everything, isn't it?

Adrienne: Yeah, it is. It is. It's really hard. I'm not telling you it's easy. It's hard to do and there will be times too where I'll point out to my son, look at my face. Do you really think I'm feeling angry? No. And I'll say right now I'm feeling blank, I'm feeling frustrated too because I don't remember how to do this, whatever. So a lot of it has to do with you. So now going back to it's emotionally processed, we need to try to do something to, I don't know, make the mood lighter, so I always love starting with some math fact practice or just something easy to do something they already know how to do, just to get over that initial resistance that it's time to do math. And so all of my students, we do this game called Island Conquer and you roll some dice and you do some area multiplication. They love that. It gets rid of that resistance. It makes some calmer, and then we do the math. If I don't spend time doing that, usually the sessions a lot harder because I rushed them into it and so they need that little bit of warm-up. So that's something easy you could do to make homework a little bit better. And I have a link for that too. If you want some more ideas on things you could do to warm up the brain to do math, that I can share with you. So once you've got those going on, you also need to try to limit what's going on environmentally around you. We are hardwired to, you know, like we're on the planes we were tracking for motion. And so if you've got a sibling that's bouncing around in the background that's going to totally distract them or the dishwasher's running that humming might actually distract them.



And so I know you've had Seth Perler on before and he mentioned having a sacred study space. This is a really, really good idea for those reasons. We're hardwired for distraction and so trying to find somewhere quiet to maybe do the homework for my kids. They didn't love sitting at a desk but they were willing to do it at the kitchen table or on their bed or on the couch with me. And then from there we've covered emotional and trying to keep track of it all. So from there then it's like, can you do three problems for me? So back to task initiation. They might resist it at first and so three problems and they might say, no, I'm, I'm no Ma, I won't do it. Okay. How about two? Can you give me two? Can you give me one? And you can even go as far as will you write your name on the paper? You know, like just going back back back until you find something they can say yes to and sometimes at the end of the day really it's just that you and your child have this strange relationship and it's probably time to get a tutor involved at that point. Someone neutral to come in and work with your child because most likely they're going to be polite to that person because they don't have any history there and they can get through it a lot faster.

With my students when we're doing homework kind of stuff. I tried to show them how much you really can get done in a 10 minute span. I'll make them aware of that time because so many of them do struggle with time. They're not really sure how much has gone by and so I'll say, look, we did five problems in 10 minutes. That's great though. You think that's great. If we continue at this rate, how much longer will it be? Totally finish and just having that road mark in their mind that it's almost over can really help them push through and finish this task ahead of them.

Debbie: Those are great strategies. Thank you so much. And just for listeners, I'll include links to the things that a Adrienne is mentioning and to the Seth Perler episodes and so you can access all of that, but you know, you talked about a tutor support, so as a way to kind of wrap it up, can you tell our listeners where they can connect with you and in what ways they could engage with you if this is something their child struggling with?

Adrienne: Absolutely. So you can always find a set website Math for Middles. We have a facebook account, instagram and we interact on both of those. So those are the easiest ways to find us. If you want to schedule like a free call with me and just talk to me about your child and decide is this the right fit? I'm happy to do that. You can go over to our contact page and schedule a time. You submit an email and we'll reply with times that work for us. And so we've got a growing team of people that are trained in multisensory math. We're always growing because the demand is so high because actually multisensory math tutors are a little bit difficult to find.

So we work all online, which means it doesn't matter where you live, we can help you no matter what. And our parents, while at first they were maybe a little bit resistant because a lot of us were not digital native. It actually... doing it all online is so awesome. I see my students with the cats in the lap. They're in their pajamas. Some of them might have their weighted blanket on them. Whatever



helps them feel comfortable. Like I said, all learning is processed emotionally and being in your own home is awesome and you'd be surprised. They do not get distracted online. They're on task, it's super interactive, they have items in front of them that we've mailed there interacting with stuff on the screen. It's the best of all things. You're not running your child to another appointment. They're at home, they're comfortable. They're say online tutoring is the best in my opinion. So that's my little plug. I, I adore it. It's my favorite

Debbie: It's just amazing the different ways that kids can learn today. I still find myself every now and then saying to Asher can you believe I went to graduate school without the Internet?

Adrienne: You know, Yes and what is available and how we can get them support in so many creative ways.

Adrienne: So that's really exciting and thank you for this conversation. Super interesting. I got a lot of my questions answered. Hopefully this has been helpful for listeners to. I do know and I hear from parents and again just friends with their kids, that math, as you know, is just one of those subjects that can really stop a kid in their tracks and get them stuck and I just really appreciated you sharing all this insight with us and the tools and tricks that you share. So thank you so much.

Adrienne: You're welcome. I'm really happy that we're able to do that and I just want to tell parents you're not alone. Math is hard in general for most people, so we're here to support you. We're here to see your child and help them learn in the best way possible for them.

Debbie: You've been listening to the TiLT Parenting podcast for the show notes for this episode, including links to Adrienne's website, Math for Middles and all of the other resources we discussed and there were a lot of them. Visit www.tiltparenting.com/session119. If you haven't had a chance to check out my book *Differently Wired* yet, I invite you to download the first chapter and table of contents at tiltparenting.com/book. I have been bowled over by the response from our parents and community so far and I'm just thrilled to hear from parents who say the book is helping them feel optimistic and confident about raising their exceptional kids. And of course I couldn't end up podcast without my weekly reminder to leave a rating and/or a review for the show on itunes. There are a lot of parenting podcasts out there. Those ratings and reviews really go a long way in helping keep our podcast highly visible and that just makes it that much easier for me to land bigger gas and when it can send out that email and talk about how high performing this show is. So thank you so much for helping me. And thanks again for listening for more information on TiLT parenting and visit www.tiltparenting.com.



RESOURCES MENTIONED:

- [Math for Middles](#) (Adrienne's website)
- [Math for Middles on Facebook](#)
- [Math for Middles on Instagram](#)
- [Math Warm Up Ideas](#) (blog post)
- [15 Fun Ways to Master Math Facts in the Middle School Years](#) (blog post)
- [Is Multisensory Math the Right Fit for Your Child?](#) (online quiz)
- [Math Class Needs a Makeover](#) (TEDx talk by Dan Myers)
- [Joan Boaler](#) (Stanford University)
- [Middle School Makeover: Improving the Way You and Your Child Experience the Middle School Years](#) by Michelle Icard
- [One-on-One Tutoring with Math for Middles](#)
- [Making Math Real Institute](#)
- [ASDEC \(Atlantic Seaboard Dyslexia Education Center\)](#)
- [Singapore Math](#)
- [Mod Math App](#)
- [Adrienne Hedger / Hedger Humor](#)
- [Seth Perler episodes on the TiLT Parenting Podcast](#)