

Nature Bags

An Interview with Carlita Boyles

C2C Podcast Episode #9



Jody: All this month, we are talking about math. For whatever reason, math is one subject that intimidates so many homeschool families, but today, we are talking to someone who has figured out a way to make math actually enjoyable.

Jenni: Carlita Boyles is a Christian author, educator and mother of three children whom she homeschooled until they graduated from high school. Carlita started her homeschool journey with a master's degree in special education and 12 years experience teaching children with learning disabilities in public school. Being frustrated with textbooks and workbooks, Carlita created a unique approach which she and her husband, John, developed into "Math on the Level". A math curriculum designed specifically to take advantage of home education. Welcome Carlita, thank you so much for talking to us today.

Carlita Boyles: Thanks for having me.

Jenni: Thank you for being patient. Carlita has been so patient with us. We've had all kinds of technical difficulties. She's just been so calm and patient. I'm excited to hear what she has to say about math, because math makes a lot of people the opposite of calm.

Jody: Exactly.

Carlita Boyles: Yes.

Jenni: Carlita, tell us why you think math is so daunting to so many homeschool families.

Carlita Boyles: Well, I think there are two reasons that come into play. One is that a lot of times, parents have had experiences in the past that make them insecure about their own abilities in math and they don't want to pass that onto their children. The other thing is that culturally, I think our country or society equates math with intelligence. Um, that's kind of the whole STEM emphasis. If you're not good at math, you can't be good at science. If you're not good at math and science, you're not intelligent, which of course is not true. There's so many different kinds of intelligences, but culturally, if our children aren't good in math, we have failed as homeschool parents. And so I think there's a huge pressure on us to make sure that our kids are good in math. So we're afraid to step out of the box or do anything that, that we have a gut feeling would be good for our kids, because if it's wrong, we've messed everything up.

Jenni: Wow, you're right about that too. And for people who- for kids, especially, too, um, if they don't succeed in math, they start telling themselves the lie that they're just not smart.

Jody: Exactly. Exactly.

Carlita Boyles: Yeah.

Jody: So you have-

Carlita Boyles: And friends and grandparents, you know, what they ask is "How are your kids in math?" And they'll ask the kids, "Do you know this? Do you know that?" And if the kids can't answer it, then they feel stupid.

Jenni: You're right about that.

Jody: So you've developed a philosophy which we are really excited to hear. So can you tell us about that and how your program works?

Carlita Boyles: Sure. Um, we're kind of based on the idea that every child is unique, that God created each child with his or her own strengths, weaknesses, um, rate of maturation. And our job as educating parents, is to strengthen and encourage their gifts and then use their strengths as a vehicle for building up their weaknesses. So rather than, um, focusing on their weaknesses and just, you know, trying to make sure that they're not hammering on those things that they're bad at, we try to strengthen what they're good at and then use that as the way to get to the things that they're not as strong in. Um, so we have three major focuses. One is maturation. So instead of having grade levels and trying to have every child learn the same thing at the same age, when a parent buys our materials, they have all of the concepts that the child needs to learn before they start algebra. And the parent has the flexibility of when to teach, at what rate, um, there's so much math. You know, there's geometry, there's measuring, there's fractions, there's so many things you can teach. You don't have to teach it in a specific sequence, so you can teach when your child is ready to learn. So that's one part of it. The next part is math motivation. I feel like a child who's excited about what they're learning is going to learn so much more and it's going to be so much easier to teach, and when math means a page of written problems...

Jody: It's intimidating for one and boring and yeah.

Carlita Boyles: Yeah, you've got some kids that like that. And if you have a child like that, you're perfectly- It's, it's fine to give them pages of problems.

Jody: This is what I see. The paper goes down in front of them and they go, "Ugh!" And they sink down in the chair and almost fall on the floor.

Carlita Boyles: Exactly.

Jenni: I have ones that actually started to cry.

Jody: Yeah, that- well, me too. Yeah.

Carlita Boyles: Yeah. Um, but math can be so much fun, especially when we're home. Uh, when I used to teach school, I would try to bring in a cooking project every couple of months or something. It was so hard. You know, you've got to bring in all the ingredients and the measuring things and hope you don't forget anything. When I'm teaching at home, I've got it all there. And what better way to teach fractions than to cook?

Jody: Yeah. Right.

Jenni: That's so true. And then you don't get this question, "Am I, am I ever gonna use this?"

Jody: Right.

Carlita Boyles: Exactly!

Jody: You know what, I was just going to say, there's so much truth to what you're saying. Um, my oldest is 31, and when he was in high school, you know, we homeschooled him, and my husband owned a contracting company. And so he actually made blueprints for houses. And so he would take Chase and sit him right next to him and literally teach him math by doing blueprints.

Jenni: Calculus.

Jody: And Chase loved it. And he saw how everything- why you used what you did. But that's, we didn't actually use a formal math curriculum. That's what we did. We did stuff like that. And so, and you know, he- well, he made it through. He was fine.

Jenni: He's a lawyer.

Jody: He's all good. But, but I- my point is we didn't- we did not, um, put those sheets in front of him like that. And, and he realized at a very young age, obviously what he needed math for, because he had to help Dad.

Carlita Boyles: Right. Yeah. I mean, if you think about how often, as adults, we use math, we may use a calculator, but we- you use math when you're estimating how much you're buying at the grocery store, your gas mileage in the car. Um, and of course when you're sewing or doing woodworking or cooking or anything like that, you're using math all the time. And so communicating that to our kids and teaching through those experiences, it makes it so much more fun.

Jody: Maybe you could come to my house and sew.

Jenni: So now, do the parents have to understand the math in order to teach it to their kids?

Carlita Boyles: Um, no. Not- Well, I- I guess this is kind of a trick question, isn't it? It makes it a lot easier if you know what you're saying. But one of the things that I've found is that a lot of parents who struggled with math as

a child, um, find it when they go back and teach using our materials that it makes it a lot easier to understand because, um...

Jenni: That's true with almost every subject when it comes to homeschooling, either way.

Jody: Totally. Totally.

Carlita Boyles: Sure. Yeah.

Jenni: Because with homeschooling you're like...

Jody: "Oh, I'm learning!"

Jenni: "The Dustbowl, how come I didn't learn about that? It was like the biggest migration in our country's history. I didn't learn anything about that."

Carlita Boyles: Yeah. And-

Jody: That's true.

Carlita Boyles: And the thing about math, particularly, is our brains mature at different rates. The body does, you know, I mean, you expect a child to... One child to walk at eight months, one child to walk at 10, one at a year and a half and it doesn't really matter when they learn as long as they learn. But the kind of- And then you also- you don't take the child who walks at eight months and say, "Okay, this kid is going to be on the Olympics."

Jody: We say this all the time!

Jenni: We do. We say like, "The kid who potty-trained when they were like 18 months isn't more potty-trained at 10."

Carlita Boyles: Exactly.

Jenni: Or the kid who potty-trained at 3.

Jody: We say this about walking too and reading, even.

Carlita Boyles: Think about math! Every fourth grader learns long division, right? Or you know, you go at this grade level, that grade level and this is what you learn at those grades. Well, who cares when you learn it?

Jody: Right.

Carlita Boyles: But the, the brain- I mean the studies that they are doing now show that parts of the brain don't fully mature for some people 'til the mid twenties.

Jenni: Yeah. Right.

Carlita Boyles: So, there's a point where the brain is able to handle abstract concepts and those are needed to learn things like algebra.

Jenni: Yes.

Carlita Boyles: What we tend to do is say, "Oh, our school district isn't learning algebra well enough, so let's start teaching it earlier." Well, that's counterproductive, you know? Um, and what happens a lot of times with parents is they went through, they had to just memorize steps in order to get to the learning to give- to come out with the right answers. They didn't understand what they were doing, but they memorized the steps they went through, they either failed or passed, but they didn't get it. So now, they're coming back with fully mature brains and able to look at the basics, especially things like fractions that you need to understand before you can really grasp algebra. And if you're looking at not just how to pop out the right answer, but how to really understand it, now you can understand it as a parent where you didn't, when you learned it.

Jenni: Yeah. Totally. Your program, what age level do you start at? Like what's your age range?

Carlita Boyles: Well, we're kind of like you. We figured that learning begins at the cradle.

Jody: In the womb?

Carlita Boyles: So, it starts with preschool and goes up to the point where they start algebra.

Jenni: Okay.

Carlita Boyles: So, that can be, um, high school. It can be fifth grade.

Jenni: Right, right. That's awesome. Okay, so now, what do you do for the kids who, like, aren't getting it?

Carlita Boyles: Okay. First of all, I think you really need to pay attention to your child, because it's good to challenge them. It's not good to discourage them. So, you usually want to try a few different approaches. You know, we use manipulatives. Um, but your goal is then- isn't to get them to just spit out the right answer. It's to get them to understand it. So, if they're not grasping it, you generally can just put it aside and come back to it later. Um, I had a- I had a situation when my son was little and I was just trying to teach him combinations of 10. You know, you've got your 10 fingers, say that you got one and the nine, you've got two and eight. Yeah. And I was using so many great manipulatives and all these things and he just wasn't getting it! And I was starting to get frustrated, 'cause it seems so simple. You know, you're just adding these things together. And suddenly I thought, uh, he's not ready for this. So, I put it aside and six months later we went back to it. He got it in five minutes.

Jenni: Right, right. Because his brain was like, "Oh, now I can- I'm mature enough to grasp that concept."

Carlita Boyles: Yeah.

Jenni: So, put it down for a moment and give them time to- to get it.

Carlita Boyles: I had one mom who told me that, uh, she, dreaded teaching long division, because she'd had such a hard time with her first children and when she started "Math on the Level", she just decided she wasn't going to teach long division. She was going to do this other stuff first. So, when her daughter was in about sixth grade, her daughter understood the concept of division and could figure it out. But she came up to her mom and said, "Mom, there's gotta be an easier way to do this division." And her mom said, "Yeah, it's called long division." She sat down and showed it to her and the girl said, "Oh, that's cool. Thanks." And that was it.

Jenni: Wow.

Jody: Oh, my goodness.

Jenni: That's so funny.

Jody: So, where do you see students having the most trouble in math and, and, and you know, what's the answer? (sheepish giggle)

Speaker 2: Uh, well, obviously, there's lots of different kids, lots of different situations. Um, I think a lot of times fractions are taught in a way, in most, um, typical books, they're taught to get the answer. So if you're adding fractions, you look at the denominator. If it's the same number, then you add the top number, leave the bottom the same, you know, stuff like that. So you just teach them how to spit out the right answer instead of teaching them to really understand what they're doing. So, I think when we teach in context, you know, measuring in the kitchen, you're, you're doubling recipes or if you're doing three quarters cup, you give them a quarter cup and say, how many of these do you need to make three quarters? You know, things like that. So, their understanding and then the vocabulary we use so that they begin to understand that fractions and decimals and percentages are all just different ways to show parts of the whole.

Jody: Which they don't show in normal curriculums how, why, or any of that. It's really hard. Like, it's like why.. Why do you double that stuff? Nobody knows. You just do it. You've got to memorize the process. And if you forget it a year later, you're in trouble.

Jenni: Because you didn't really understand the concept.

Jody: Right. You didn't understand it.

Jenni: You just memorize the process.

Jody: Yeah. So, go ahead. I just had to interject that.

Carlita Boyles: Yeah. Something that's kind of fun when you're, um, cooking is to have your kids take a recipe and cut it down to an individual serving size.

Jody & Jenni: Ooh!

Jenni: I would have a hard time with that.

Jody: So. Carlita, can you teach us how to do that?

Carlita Boyles: Well, you've got an automatic answer key. Cause if it tastes horrible, they messed it up, you know?

Jody: There you go.

Carlita Boyles: And then, another thing that I think is something that kids struggle with is retaining what they've learned. Because, what most programs do is they give you a whole page of problems. You're supposed to do it over and over and over and over one day and then you remember it. But really, our brains don't work that way. We have to do it over time in order to retain. Um, I w- One of the talks that I have given, I talk about how when I was growing up, I was in a church that had hymns and so, you know, you sing the hymns, three or four hymns every Sunday, year after year after year, but it's never the same one over and over. Um, and then when I was about 20, I ended up going to church, has started going to churches that did more choruses and we didn't do hymns as often. So I went back when I was in my fifties and starting to do some of these talks and I looked at a hymnal and I can still sing the first verse of over 300 hymns.

Jody & Jenni: Wow.

Carlita Boyles: And a lot of those, I still know all four verses. I never sat down and worked on memorizing them. It was just that over time, they stuck in my mind.

Jenni: Yes.

Jody: Yes, yeah.

Carlita Boyles: So, what we do is we have a five-a-day review. I mean, you use as many problems as you need to teach the concept.

Jody: Okay.

Carlita Boyles: But, once you know that your child can do the concept independently, then the next day, you give them one problem of that concept. If they do one problem, they still remember how to do it. That's all you need to know. You do one problem a day for maybe five days and then you switch it to every two days and you do one problem every two days and then every three days, every four days, every week, two weeks, three weeks, and four weeks. So, your goal is to get it to once-a-month review, but you're just doing one problem at a time and any time they forget, then you can immediately stop. I always encourage parents to ask how they got their answer. So you find out whether it was a careless mistake or if they really forgot how to do it. And then if you need to, you reteach, put it on a more frequent review and then, you know, you're right on top of every concept you've taught them.

Jody: Yeah, that's great.

Carlita Boyles: And so, we have a spreadsheet that keeps track of that and...

Jody: It's almost like you don't even have to review for a test, because you've been doing it all along.

Carlita Boyles: Exactly. There's no test. Um, because the test in my mind and the report card and stuff, that's the way the teacher communicates to the parent. You're the parent. You should know how your kids are doing on these things.

Jody: Yeah. You're right. Right.

Jenni: Right, right.

Jody: That's really good, Carlita, really good.

Jenni: You're right. I do have a question for you. What do you do when you have multiple age groups at once and they're all learning different concepts. How do you, as the parent, handle that?

Carlita Boyles: Okay. Well, first of all, as often as possible, I don't do that. I have my kids working together. Because, since you're in charge of the sequence, you can say you're working on fractions. Maybe one of your child is working on just understanding what a fraction is. Somebody else's learning about doubling fractions and you know, adding fraction, somebody else's multiplying or dividing fractions. But everybody's working on fractions, so you can all be cooking together or working with the same manipulatives. You know what I mean?

Jody: Okay. It's just maybe on a different level.

Carlita: Yeah. Yeah. And a lot of times if you're focusing on the older kids or the higher concepts, um, the younger ones may be watching, participating in the activities and just kind of absorbing some of that so that you're maybe, not focusing on teaching them, but since they're participating, they're still getting a lot of that knowledge.

Jenni: Right, right. Yes, exactly. It's kind of like, it's almost like reading aloud, you know, you're ready to be reading probably, you know, to the upper level child. But the other kids are, are, are gaining some insight from that. Carlita, it sounds fascinating. I'm so excited to check it out. I still have some younger kids that I'm homeschooling. I've got some that are graduated and um, I've got others that are at, you know, they're in high school but they're dual enrolled too. They're taking their math at the college. Uh, but I still have some younger ones. And so I'm really excited about your program and we are going to put information in the show notes to tell the listeners how to find you and how to check out your math program. Um, do you have any parting words before we sign off here?

Carlita: Yeah. Um, just a couple little things. First of all, one of the things that we have found is a real advantage to this approach. If you have an older child who has struggled with math because they then, um, their brain maturation hasn't matched where they've had to learn and they've just

kinda had to memorize all along and they really didn't get it. This program is really helpful because there's no grade level and they can go back and start at the beginning, make sure they have all those foundational pieces in place without any, um, feeling any stigma of going back into second grade or third grade book. Yeah. So that really helps. Um, it also allows the child who's really strong in math to go fast without having to slog through stuff they already know.

Jenni: That's a good way to put it. Extra, you know, tons of problems that they're already familiar with.

Carlita: Yeah. And it kind of eases the sibling rivalry sometimes because a lot of times the one that's fast is younger than the one that struggles. And so here you don't have the younger child in a higher grade level, you know, everything is individualized, so you get rid of that, which is, it's kind of nice. Um, and then it allows you to focus on how your kids designed are designed by God. Not trying to put them into the mold of the world, but letting them be who they are developed when they do. And it lets you teach your family in a real natural way.

Jenni: Yeah. That's awesome. Well, Carlita, that thank you so much. I think you've given a lot of families who are struggling with math, some hope and we hope that they'll go check it out. I know. I will. We're really grateful to you.

Carlita: No problem. Thank you so much for having me.