#15 Math

So, you may be saying, that's great about all this story, art, poetry and music stuff. But what about Math?

I find it interesting as I observe homeschool moms that they are careful and troubled about many things, and Math seems to be at the top of the list. Never mind is your child happy? Is he kind? Do you have a good relationship with him? No, it's Oh my goodness, my son or daughter is in the 3rd grade and hasn't mastered multiplication tables and it sets off a panic attack.

I think the reason we place so much emphasis on Math is because it's one of those clearly defined benchmarks. Many moms who choose to homeschool feel a lot of pressure to 'measure up' to the outside world looking on, and math is one of those measurable subjects. If a child can do math above grade level, she sighs a sense of relief that she's not ruining her child and maybe even has a gifted one on her hands. But heaven help the child who is running below level in math. I'm a failure! Maybe I should just give up and put my child back in school.

But it's just math.

And although today's world would have you think that the whole future of civilization rests upon our kids' math scores, it simply isn't true.

Now, you may be one of the moms who has it all under control. Yay for you! But for you other moms who are trying to navigate the waters, let me try and widen some perceptions here.

I encourage you to spend some time in the Math section of the Mother's University
At the top of the list of questions we should be asking, I would choose, "Why study math at all?"

First, let me insert here some inspirational words from Galileo: "Mathematics is the language in which God has written the universe."

If you had a bad experience with math in school, you are now free to see it with new eyes and a sense of wonder right along with your children. That's the heart part of studying math.

I recommend, if you haven't watched it yet, watch the TED talk posted in this section given by a High School math teacher where he addresses our question of why study math at all.

Then move to the articles I've posted, starting with Why Johnny Can't Add. This was written by the son of an aerospace engineer. Because his dad worked on top-secret projects, he had no idea what his dad did. He found out later that his dad had designed the first anti-ballistic missile in the US and he was involved in other space projects. The tinkering his dad would do at the kitchen table or out in the garage late at night was how he was solving complex issues that involved precise mathematical computations.

Surely his brilliant father must have had an intense math program growing up!

Actually, no. His family was dirt poor and he attended a small one-room school that didn't have enough money to even supply the students with books. So the full extent of math instruction consisted of memorizing addition and subtraction, multiplication and division facts through drill and practice. He didn't even hear the word 'calculus' until he got to college. He said that that was the education of most of the engineers of that early space program. There was no PhD in physics or advanced mathematics. He got a bachelors in Ceramic Engineering and took as many math classes as he could because he had an interest.

Arithmetic wasn't some mysterious subject that was difficult to comprehend–it was presented as a tool.

There's lots of good food for thought in that article.

Then take a look at Just Do the Math. Dan Greenburg is a co-founder of the Sudbury school. There's another interesting topic for another day. But the simple premise behind the teaching of subjects is Wait until a child asks for it, and has a use for it, even if it is just college admission.

He wrote a book about a little experiment, claiming he could teach students the entire K -6 math portfolio in just 20 contact hours. He had a dozen children, ages 9 to 12 and there was one rule: Be on time. 11 am sharp, twice a week, for half an hour. If anyone was 5 minutes late, class was cancelled. If it happened twice, no more teaching.

Using just an old 1898 math primer, in 20 hours, every single student knew the material. Every single one.

He said math isn't a hard subject. What's hard–virtually impossible–is beating it into the heads of youngsters who hate every step.

Then follow it up by reading the Benezet experiment, which also showed that it's not necessary to spend years pounding math into kids. This particular teacher suggested an experiment in which the teacher waited to start math instruction until the 6th grade. The principal got nervous and he had to end the experiment a little earlier than that, but his students not only passed up the kids who had been drilled since kindergarten, they easily surpassed them going forward.

Then I linked a great article by Heidi Nash on How to inspire a love of math. There's the heart part of math–creating the desire. And then teaching the facts, as these previous articles show, can be done without tears and in a much shorter amount of time than we tend to make it.

You'll find a lot of heart-based math resources in the Mother's University math section. I'll let you make your way through that. But start becoming aware of natural ways to make numbers and math a useful part of life. When you play games with your little kids that require rolling of dice and moving their little figures on the board, they get lots of practice counting and adding up numbers in a useful way. That's math. When you cook, you're introducing fractions with your quarter cup measures and your teaspoons of measurement. Same as when you cut a pizza into 6 pieces and give 1 sixth of it to your brother. How long will it take a child to learn to count by 5s

if you pay him for some work with nickels in anticipation of saving up for something he really wants? Math is useful! And that is the impression little children need.

I think that's enough said for now. Have fun exploring some of the resources and articles I linked.

I'll close with a little poem I remember clearly from my 5th grade math class.

A Mortifying Mistake
by Anna Maria Pratt

I studied my tables over and over, and backward and forward, too;
But I couldn't remember six times nine, and I didn't know what to do.
Till sister told me to play with my doll, and not to bother my head,
"If you call her 'Fifty-Four' for a while, you'll learn it by heart," she said.

So I took my favorite, Mary Ann (though I thought 'twas a dreadful shame
To give such a perfectly lovely child such a perfectly horrid name,
And I called her my dear little 'Fifty-four' a hundred times, till I knew
The answer of six times nine as well as the answer of two times two.

Next day Elizabeth Wigglesworth, who always acts so proud,
Said, "Six times nine is fifty-two," and I nearly laughed aloud!
But I wished I hadn't when teacher said, "Now, Dorothy, tell if you can."
For I thought of my doll and –sakes alive!–I answered, "Mary Ann!"