Teaching Mathematics

Without losing your children, your sanity, or your principles

“Mathematics is the language in which God has written the universe.”

~ Galileo

“We take strong ground when we appeal to the beauty and truth of Mathematics; that, as Ruskin points out, two and two make four and cannot conceivably make five, is an inevitable law. It is a great thing to be brought into the presence of a law, of a whole system of laws, that exist without our concurrence,--that two straight lines cannot enclose a space is a fact which we can perceive, state, and act upon but cannot in any wise alter, should give to children the sense of limitation which is wholesome for all of us, and inspire that *sursum corda* which we should hear in all natural law.” (Vol 6: pg. 230-231)

“The practical value of arithmetic to persons in every class of life goes without remark. But the use of the study in practical life is the least of its uses. The chief value of arithmetic, like that of the higher mathematics, lies in the training it affords to the reasoning powers, and in the habits of insight, readiness, accuracy, intellectual truthfulness it engenders.” (Vol 1, pg. 254)

“Give him short sums, in words rather than in figures, and excite in him the enthusiasm which produces concentrated attention and rapid work. Let his arithmetic lesson be to the child a daily exercise in clear thinking and rapid, careful execution, and his mental growth will be as obvious as the sprouting of seedlings in the spring.” (Vol. 1, pg. 261)

Principles To Keep In Mind For The Teaching Of Math Using

Charlotte Mason’s Method

1. Remember that your child is a person. Respect him or her as such. Every child’s mind is already capable of handling ideas. His or her reasoning power is already there, ready to work upon this mind food. Math only strengthens and sharpens these reasoning skills.
2. Like all subjects, we invite our children to bring their own natural curiosity and desire for knowledge to mathematics. Let this desire lead them to establish their own personal relationship with math. The ‘Science of Relations’ will be at work here.
3. Present the ‘captain ideas’ that a person’s mind can latch on to as you introduce each new concept. Rather than giving sums to be worked in pure number, at first, we give them real world scenarios that they will be familiar with and that their imagination can work upon.
4. Don’t drown the lesson in verbiage.
5. We need to exercise a little masterly inactivity. Let the child’s mind do the work of their own education. Charlotte reminds us that “It is in his own power he must go.” (Vol 1 pg. 261)
6. Go at your child’s pace. \*\*\* GO AT YOUR CHILD’S PACE \*\*\* (Refer back to principle #1)
7. Expect a child to give 100% of their attention to the lesson for the whole lesson. We secure their attention by giving them interesting ideas to chew on.
8. Keep lessons short. (20 minute lessons for 1-3rd grades--or shorter if needed. We increase the time to 30 minute lessons for 4th grade and up.) \*\*\* KEEP LESSONS SHORT\*\*\* Stay within the time limit.
9. We should not put undue emphasis on math to the exclusion or downplay of other subjects, but should spread the whole feast for the mind. A place for every subject and every subject in its place.
10. Start with the concrete, then move to the abstract. Begin with manipulatives, then when they are able to do the arithmetic without them, put them away.
11. Use real world objects as part of simple problems that are within the child’s grasp.
12. As in other subjects, we review what we learned yesterday (or previously), then learn the new concept. (You can certainly switch the order on this, but the important point is that you include both in every lesson.)
13. Do five minutes of rapid mental math as a part of each day’s lesson.
14. Most of the work is done orally. Writing in his or her notebook is considered a privilege reserved for times when the child is especially sharp or has demonstrated mastery of a concept.
15. Neatness and accuracy must be expected from the beginning.
16. The subject of math is an exception to Charlotte's rule that knowledge is best learned in literary form. She did not advocate what many refer to as “living math books”.
17. Remember that the Holy Spirit is your child’s teacher. Pray, trust Him and teach your child to do the same.

Charlotte says of math:

 “There is no one subject in which good teaching effects more, as there is none in which slovenly teaching has more mischievous results. Multiplication does not produce the ‘right answer’, so the boy tries division; that again fails, but subtraction may get him out of the bog. There is no *must be* to him; he does not see that one process, and one process *only*, can give the required result. Now, a child who does not know what rule to apply to a simple problem within his grasp, has been ill taught from the first, although he may produce slatefuls of quite right sums in multiplication or long division. . . . How is this insight, this exercise of the reasoning powers, to be secured? Engage the child upon little problems within his comprehension from the first, rather than upon set sums.” (Vol 1, pg. 254)

“A bag of beans, counters, or buttons should be used in all the early arithmetic lessons, and the child should be able to work with these freely, and even to add, subtract, multiply, and divide mentally, without the aid of buttons or beans, before he is set to ‘do sums’ on his slate.” (Vol. 1, pg. 256)

Resources

* Charlotte Mason’s first volume: Home Education
* Teaching Mathematics To Young Children by Irene Stephens

This resource can be found through charlottemasonpoetry.org. A link is posted on their math page.

* Simply Charlotte Mason:

Mathematics: An Instrument For Living Teaching by Richele Baburina

Living Math: A Guided Journey (DVD)

The Charlotte Mason Elementary Arithmetic Series (Book1, Book 2, and Book 3)

Simply Charlotte Mason is offering conference attendees a 15% discount off of a purchase of any of their math resources June 18th-26th. Discount Code: simplycm.com/coupon/S6A3S3R3

* Other recommended math texts (to be tweaked and taught using CM’s principles and methods):

Strayer-Upton Practical Arithmetics (This is a three book series)

Elementary Algebra by Harold R. Jacobs

Geometry by Harold R. Jacobs

Algebra and Trigonometry, Functions and Applications by Paul A. Foerster

* Charlotte Mason Math Together is a Facebook support group for people who are using the book Mathematics: An Instrument For Living Teaching by Richele Baburina and the accompanying DVD.
* Here is an excellent article from Charlotte Mason Poetry on math for high school students:

http://charlottemasonpoetry.org/math-for-older-students/