

Waldorf Essentials

A Journey through Waldorf Math

SAMPLE



*By Melisa Nielsen
Edited by Erik Nielsen*



Please keep in mind that each grade (second edition grades 1-5) has the mathematics portion included within the text of the curriculum. There is no need to purchase this as well. This book can be a great addition if you are new to Waldorf and are catching up a bit or if you have a child that isn't right on grade level with math (totally normal by the way!)

A Journey Through Waldorf Math

Table of Contents

Introduction and how to best use this book

History of Waldorf schools and anthroposophy

Chapter 1: Waldorf math: the nature of “whole to parts”

Chapter 2: Waldorf math through the grades

Chapter 3: Math main lesson blocks

- Grade 1
 - Teaching numbers and Roman numerals
 - Number qualities
 - The four processes
- Grade 2
 - Time
 - Times tables, four process review and number patterns
 - Money
- Grade 3
 - Linear measurement
 - Dry measure and liquid measure
 - Square numbers, cubed numbers, prime numbers, perimeter and area
 - Place value, carrying and borrowing
- Grade 4
 - Long multiplication, long division, averaging, factoring
 - Basic fractions
- Grade 5
 - Fractions, mixed numbers, reciprocals
 - Decimals and the metric system

Closing remarks

Appendix

- Resource list
- Compiled curriculum chart

Chapter 1

Waldorf Math: The Nature of Whole to Parts

By now, if you are not well versed in Steiner's work, you are probably wondering what on earth this "whole to parts" business is! The best way to describe it in short is like this:

While 3×4 is 12, 12 is more than 3×4 . 12 is 6×2 , 2×6 , 4×3 , 12×1 , $6 + 6$, and so on.

So how is that translated practically for a child? Well, it starts far earlier in the work we do and in how we speak to them when they are younger, but practically you can ask a child the open ended question of "what is 12?" and allow many answers because there are many answers, allowing them to see the big picture of all that 12 really is, rather than only giving them a small representation of 12 and telling them later "and by the way, XYZ is also 12." Discovering numbers for a child is an experience that comes very much from their core of how they understand the world around them. They see the family as a whole, they rarely see just Mom, or just Dad when they are young (before seven years) and so to bring them only pieces goes very much against how they see the world.

Steiner says in *Teaching Arithmetic*:

"The living thing is always a whole and must be presented as a whole first of all. It is wrong for children to have to put together a whole out of its parts, when they should be taught to look first at the whole and divide this whole into its parts; get them first to look at the whole and then divide it and split it up, this is the right path to a living conception."

This is very foreign to most of us and how we were taught math. Many of us were counting and trying to memorize numbers and their abstract symbolism far before we could really understand it – I am amazed at children's television programming and so called "math help" for preschoolers and babies! Babies need to be babies, not counting machines! Most of us were taught to add and subtract first only to be bombarded with multiplication and division in later grades. Steiner's math concepts have children learning all four math processes on the same day! Steiner believed that introducing them all at the same time would allow for true freedom in thought as children grew into adults – think about that for a moment... there is freedom in knowing that there is more than one way to derive an answer, this is true for all things, not just math. He discusses synthesizing versus analyzing – when we synthesize something, we have to add something together working up from the parts, but when we take time to analyze something we can separate it out or divide it into parts. Steiner believed that thinking had these two major components (synthesis and analysis) and that children by nature will choose to analyze things. With an education system that forces synthesis over analysis in these early years, he believed it would have strong consequences later in life – spiritual ones! Now whether or not you believe it, take some time to look at the world around you. Materialism abounds from the thought pattern that we must add more and more to become whole. How many of us have gone on spiritual journeys as an adult to become *whole* only to find out we already were *whole* and our ego just didn't know it? How much time would we have saved if we could have seen ourselves as whole? When we teach a child they are whole from day one, then we give them a great gift – a gift they can share with others. Much of Steiner's work sounds a lot like today's work in quantum physics, but this shouldn't be surprising... remember, truth is everywhere.

Now of course there are plenty of instances when synthesis is necessary and appropriate, but teaching from an analytical standpoint first allows the child the freedom to see what method will work best to solve each of life's challenges.

In *The Renewal of Education*, Steiner has this wisdom to share:

“If I have to add two and five and three in order to find the total, I am not free, for the answer is fixed by an underlying law. But if I begin with the number ten, I can view it as consisting of nine and one or five and five; or I can arrange it into three, five, and two and so on. When analyzing, I am able to act with complete inner freedom, whereas when synthesizing, I am forced by outer circumstances to adapt my soul activity to an external necessity.”

This is a sample lesson, each lesson for each block in each grade is given in depth, with the exception of a few lesson days when more practice is encouraged before moving on.

Math main lesson one: teaching numbers and Roman numerals

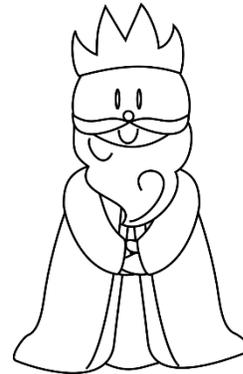
Lesson 1:

In our story, the great and wise King Equals recites the riddles, in preparation for this you could make a King Equals from our pattern to introduce on this day.

The first riddle goes like this:

*I live in the sky
Up far away
I brighten the earth
I bring light to our days
And each night when the day is done
You will be sure, I am the only one.*

What am I? (The Sun, and the Roman numeral I)



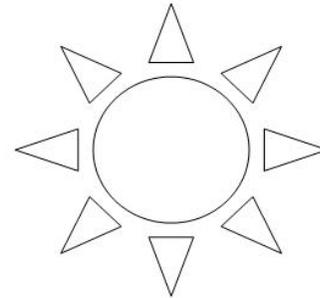
Additional, optional lesson: tell a fun story about the sun such as “Why the Setting Sun Turns Red” from the book of the same title by Eugene Schwartz or “When the Sun Rose” by Barbara Helen Berger.

Your main lesson book might have a drawing of the sun or moon or your child. By this time your child should be able to write some short sentences so even something so simple as “Our sun is I.” This may seem like a short lesson – it is meant to be, toss bean bags in preparation for bean bag math, work on counting together, marching or skipping rope. Remember that it is natural for children learning to count to have trouble with the teens (13, 14, 15, etc.) as they don’t sound in English like the other numbers do, some have found it helpful to teach them to count “10 and 1, 10 and 2, 10 and 3, etc.” all the way to twenty when the numbers begin to sound like the first then again (21, 22, 23, etc.) These sorts of activities will fill in the gaps as they work up to harder math that will come once the processes are introduced in later lessons. Also, remember hopscotch? This is a good time to introduce it! It is a counting activity.

Lesson 6:

For today we will work with Times. I have again included a lesson page and a verse for your work today. Introduce the other name for Times, the one her mom calls her, Multiply. When Times puts things together, her answers are called the product. Just a note too, I don't always use "=" in the beginning but you can, follow your child and see what they seem to need.

Times knows quite well
That 2 times 2 make 4
She always likes to multiply
So that she'll have much more.



2×2 are 4	4×4 are 16
3×4 are 12	6×2 are 12
$VI \times 4$ are 24	8×1 is 8

