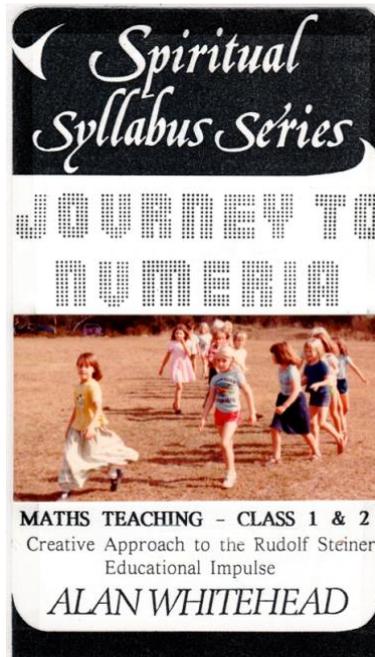


Journey to Numeria

Math for Class 1 & 2

By Alan Whitehead

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Math Lessons in First and Second Grade: Prologue

This second teacher/parent manual in the *Spiritual Syllabus Series* outlines 12 Mathematics unit lessons in Class 1 and 2 (7 and 8-year-olds). The math stream is essentially taught in the morning main lessons, for the first two hours of the day. There are three, 3-week math main lessons per year, or about 90 hours teaching.

But there is also a corollary stream, the Numeracy, which is presented as 3 middle-lesson units per year. These occupy the 1 ½ hour lesson between break and lunch, and are again sequential, of 3-week duration. The time scheduled is around 60 hours teaching over the year.

So mathematics/numeracy has a 150- hour allotment every year, right through primary school. Included in this are the form/dynamic drawing units, which also contain elements of writing and other fundamental coordinative skills for young children.

The miracle of math calls on the astral forces of the learner – it calls on Imagination, or *Imaginative Cognition*. This is the most important faculty to be developed in the coming age – the New Age of Abraham. An intelligent and image-filled mathematics education is essential for this sublime and imperative step on the long road of the evolution of consciousness – this small manual is directed to these high ends.

The following is a suggested curriculum structure, emphasizing the aspects of the human being awakened by the various Number Paths – aspects detailed in the 12 articles in this book. See my book *La Pleoma*, for full primary Curriculum. See my book, *A Steiner High School*, For High School Curriculum.

		CLASS 1	MATHS – ASTRAL	CLASS 2		
MATHEMATICS – HEAD	MAIN LESSONS					
	BODY	SOUL	SPIRIT	BODY	SOUL	SPIRIT
	MENSURATION	NUMERATION	CALCULATION	MENSURATION	NUMERATION	CALCULATION
	COUNTING Page 8	4 OPERATIONS Page 16	THE EQUATION Page 25	MONEY Page 49	TIMES TABLES Page 57	THE ALGORITHM Page 65
NUMERACY – CHEST	MIDDLE LESSONS					
	WILL	FEELING	THINKING	WILL	FEELING	THINKING
	APPLIED NUMBER	DIAGRAMM. NUMBER	PROBLEM SOLVING	APPLIED NUMBER	DIAGRAMM. NUMBER	PROBLEM SOLVING
	PAPER FOLDING & CUTTING Page 32	RADIAL FORM/ DYNAMIC DRAWING Page 38	GAMES WITH COUNTERS Page 44	TIME & CLOCKS Page 72	LINEAR FORM/ DYNAMIC DRAWING Page 79	CLASS SHOP Page 86

Programming details in *A Steiner Homeschool?* Steiner Education in Australia. P. 5
Full 12 (13) subject Class ½ curriculum in *Genil of Language*.

Rocky Milestone Hit it! First Grade: Counting Main Lesson

Hello, I'm Ricky Milestone. Yes, I know, you've seen me by roadsides from Kalimantan to Kilimanjaro. I'm very old, yet young in spirit. My tasks over the centuries have been concerned with showing travelers, pilgrims and medicants how far it is from where they've been to where they're going, whether it be in leagues, miles, or kilometers.

In short, (and I am somewhat truncated) I am a *Counter*. Imagine my delight when I was called into one of those Steiner schools to help provide – how would you call it – the *Metaphysical Magic* for the lesson!

I know a lot about counting, but I don't know much about education, so I had to have a briefing by the teacher. This happened when he was 'asleep' of course by way of astral traveling you might say. The astral is my true home and here we can communicate, The Teacher and I...

Teacher: Now Rocky, to put you in the picture, literally and metaphorically, you need to know a few basics. The main lesson is conducted in the first 2 hours of the day, with the same subject being taught for about 3 weeks – that's 15 days or 30 hours teaching.

These main lessons appeal to the child's head forces, the thinking, and represent the major academic stream in their 12 years of education. There are 4 strands of main lessons, cycling along year after year...

Ricky Milestone: Cycling? I know about cycling – I've helped my cyclists along...

Teacher: Yes, yes. But cycling in this case means sequential presentation, one after the other. Anyway, the 4 main lesson streams are: Language, the ego main lesson; Math, the one you're helping me with, this draws on astral faculties; Social Science, or the Study of Man – etheric; and Science, the stream of the physical body.

Mathematical understanding requires recourse to the astral realm, the one we're in now – the realm of dreams if you like. Often children with suppressed ego faculties can effortlessly access this sublime realm, with answers they could never manage if they tried to *think* it out.

They can be especially good at 'estimation' exercises (the number of beans in a bottle, that kind of thing). Estimation is an important element in the Counting main lesson.

Dustin Hoffman's portrayal as the autistic adult in the film Rainman (a particularly apt, astral title) exemplified this principle.

RM: I didn't see it, what did he do?

Teacher: Raymond, or Rainman, could perform complex numerological tricks in an instant – problem-solving presented no problem at all. This basic ideas of the film were based on reality you know. Anyway when asked by his incredulous brother (Tom Cruise) how he did it, he said, “I see them (the numbers), that’s all”. This is numerical clairvoyance (clear viewing), is an astral faculty but one that only operates when the ego is asleep.

Rainman could glance at a pile of matches and tell exactly how many there were. He could look at a detailed statistical sheet of aircraft crashes and tell you months later which airline was safest to fly with (in this case *Qantas* – yeah!)

RM: Ah, that’s why the Chemical, Tone, or Astral Ether is also known as the Number Ether. This picture realm is the home of Numerology, with its illimitable capacity for metamorphosis. Each subtle change being based on complex number principles. Okay, so that’s the math main lesson for the year...

Teacher: Oh no – counting is just the first lesson. There are three math main lessons each year (and 3 middle lessons as well); these 3 strands are Mensuration, Numeration and Calculation. They relate to Body, Soul and Spirit respectively. Mensuration (be careful with that word) means ‘measuring’ and as you know, counting is a kind of measuring. You yourself measure off the miles on life’s long and winding road. You measure in general and count in particular. These are ‘body’ activities, as seen in your rather well incarnated, blocky form and substance – you’re a granite milestone, aren’t you? Mensuration is the Body strand in mathematics”.

RM: Counting can be the easiest math operation, or the most difficult – how do you pitch the lesson level to your particular class?

Teacher: Ah, there is a secret of soul engagement for these 7-year-olds whom are little Atlanteans, sub-consciously anyway, or little rainbows you might say (like the one you’re resting on now). In a fairly simple procedure, for each subject area actually, you can determine a child’s capacity.

Those with the greatest learning difficulties in the particular subject you can envisage as red, the racehorses might be violet. When you find an ability level/color for every child, combine them into a color curve. There may be only one or two ‘reds’, 13 greens, 3 violets, etc. You pitch the lesson at the median range – the greens in this case. Of course you must have challenging work prepared for the advanced children and also craft the lesson so that more rudimentary activities can be achieved and enjoyed by the children who need more time.

This *Class Rainbow* can be very instructive, helping guide selection of lesson material in an informed way. You can’t *guess* this phenomena, not accurately anyway.

Mind you, the *Class Rainbow* will be different with every subject, for example, painting. The red math students might be violet artists. In fact the green math class might be a talented 'blue' group of little painters. This exercise also helps us find each child's true capacities – their very own rainbow, one which arches across the whole 12 subjects – the Educational Zodiac incarnate.

RM: Okay, so how do we start this Counting main lesson, the child's formal introduction to mathematics?

Teacher: Well most of the children can count already, but that's not the point. Our task is to lift the veil behind the *mystery* of number. We don't merely teach them about one, but *unity*, not too but *duality*. My presentation will show them where unity exists in the world!

This is the first mile on the long road of 'analysis' for the class, a soul-healthy activity where we start from the whole, and in freedom of choice, separate the study its parts – later putting them, with reverse operation and so forth, back together again. However one principle of unity is that it cannot be divided – each child is a unity, the Individual, one is the sun.

Mind you, an equally important factor in the learning process is discovery. My examples should merely trigger the class's enthusiasm to find unities of their own. 'Our house is a 1!' – 'Is the moon a 1 too, er, I mean a 1 as well?' – 'god's a One isn't s/he?'. A teacher has to be pretty adroit to field some of the curly replies, er, I mean questions – 'I've got 2 eyes – and 2 balls!'. 'Yes John, the testicles are a Duality, next?'

As we are all citizens of the Age of Twelve, our present Anglo-Teutonic global civilization, it is appropriate to take the numbers (as both physical and supersensible principles) up to 12. A large clock on the wall can reinforce the integrity of the 12, if only subliminally, though consciously by the end of the lesson, when I will introduce the mighty 12.

A 15-day main lesson give one day for Introduction, perhaps 12 for the main Content, the numbers from 1 to 12, one day for Conclusion, and one for the Excursion ('Hooray!').

RM: Can I come too? Why don't we go to the beach and look for number principles there? Someone might find a starfish – what a treat!

Teacher: We'll see.

RM: Every time my mother says that it means yes – YES?!

Teacher: I didn't know milestones at mothers. No matter, that reminds me of the next day, we move on to Duality. We talk about the number 2. We talk about two parents, two legs, Yin and Yang..."

RM: Yin Yang? With 7-year-olds?!

Teacher: You can imply it, through discussions about boys and girls. For example there is me and you, a pair of twins, or night and day. The list goes on and on and is mostly built up from the children's increasingly canny discovery skills.

RM: Can I do 3? Let's see; Trinity; mum, dad, and me; The Three Sisters; and three miles from home to school...

Teacher: Yes, you're getting the idea! There is no area too trivial, or indeed lofty, that cannot be brought into the service of these happy children's education, to illuminate the Three Blind Mice or the mystery of the Trinity – both work!

Four is the number of the Earth. There are 4 legs on a table and a horse, there are 4 seasons, and 4 cardinal points of the compass. Five can represent Man. We stand as a 5-pointed star, we have 5 (standard) senses, and the hand has 5 fingers! Six is the number of Nature. It can be seen in insect's legs, faces of a cubic salt crystal, 6 directions, and frost crystals.

Seven is the number of Creation. There are 7 colors, 7 tones, 7 planets (astrological), and 7 *Days of Creation!*

RM: How about dwarfs? I'm a kind of dwarf you know and we often represent the 7 Aspects of the Soul – Sleepy, Grumpy, Happy – *Dopey!* Ho, ho, ho...

Teacher: Thanks for that. Um, then there's 8. This is a little tougher here, 8 is sometimes aligned with evil as well as good. There is the 8-legged spiders and octopodes. You can even simplify the 8-fold path to the children's terms. You can share Right Word, Action, Thought, Vocation and so on.

RM: Some of my granite friends were made into 8s. They were used as building blocks in the local Sikh temple, especially in the dome.

Teacher: Really? That's amazing! Then there's 9, the number of the Spirit. There are 9 Hierarchies and 9 hells even. Although we might not share all this with the children. It is also the number of the Persian Mysteries. All Persian-inspired Bahai temples are constructed on the 9, from segments of the dome, right down to the finest fretwork in the 9-sided fenestrations.

RM: Really? Ah, I know all about 10. You could use the 10 Commandments this time, unlike the Buddhist 8-fold Path, a proscription rather than an invocation to good conduct. You can teach the kids to count by 10, 100s, and 1000s! Here they'll receive an overview of the metric system...

Teacher: I don't like kilometers; give me leagues and miles any day, they're more, shall we say, organic.

RM: Hmm, there is a certain rational sterility in 10 consciousness. Anyway, 11 is.... goodness knows? The number of players in a cricket team? Eleven represents the previous Greco-Roman civilization, the number of the Rational Soul. The Intellectual-Soul French came up with the metric system!

Teacher: We should in time replace the 11 with the 12. There were 12 Knights of the Round Table and 12 Disciples. Only brief references to these things of course because they will have heard of them before anyway. There are also 12 signs of the zodiac!

RM: A poem built up one line a day would be nice. Say you come in on the 'One' day. You could start by saying, 'Now children, we're going to learn a poem, it goes like this...One the Sun!' – 'That's it?' – 'Yes, it's only a short poem'.

Next day, 'Two' day, the verse has grown to 2 lines:

*One the sun,
One, two – me, you,*

And then every day a new line with each number introduced. It's amazing how easily they'll learn it all. Any of the arts can be employed to enliven the lesson. Let me finish the poem, just for fun:

*One the sun,
On, two – me, you,
One, two, three – earth, sky and sea,
One, two, three, four – limbs to move who needs more?
My fingers five are all alive,
Six is a snowflake, a humming bee hive,
Seven the rainbow that shines through the showers,
Eight is the spider, waiting for hours,
Nine are the live of my black kittycat,
Ten are my toes, I'm happy with that!
Eleven the past, its marvels to show,
Twelve are the months to harvest and sow.*

Teacher: Thank you Rocky! After all, that's why you're here, to inspire me. Now to some more practical concerns. In this math lesson, *Counting*, the class should be issued with *counters*. To place these small stones, lima beans, quandong sees, wooden discs – or whatever the teacher fancies (they mustn't roll around) – in patterns of number, gives visual input to the lesson. For example, say you are working with 5. How marvelous to play with the counters, rearranging them from a straight line of 5, to say a star pattern! Give them some time just to play with the counters and see how many ways they can arrange each number!

Then there's the body count, no, not the casualty figures from the latest military adventure, but using the *children* as counters. How they love to run out and be part of a 4 – made of two pairs! Or dance around in a circle of 6. This infers certain sociological principles as well. One person is a hermit, two a partnership, and then there a triangle – often leading to conflict. Four can already be two teams! A wholesome education engages the human being from the top of the head to the tips of the toes you know!

Introducing the numbers, we show the evolution from so-called finger numbers – as expressed in Roman numerals – to more abstract Indian/Arabic numerals. To start teaching the Roman numerals show the students how they work with their hands. One finger is 1 – two, 2 – three, 3 – four, 4 – the hand as a V, 5 (five fingers) – VI (the other hand come into play) – VII, 7 – VIII, 8 – VIII, 9 – cross hands, ten fingers to make X, 10.

These can then be drawn on the day's main lesson book page. On the 'four' day we draw IIII. Beside it, the image to most strongly represent the 'quaternity', say a person standing with 4 limbs outstretched. Then beside him, the numeral 4 as we know it. Then we color the whole thing in!

RM: I know what the children would love! They would love to actually find the numbers in their own school environment or at home too. This would be productive and creative 'homework'. We would tell them, "Find something at home with the number 6; we'll be learning about 6 tomorrow."

Teacher: Class 1 children should always have a 15-minute break (no longer) in the middle of a 2-hour main lesson. All the better if that is a constructive break. For example, they could be running around the playground looking for 6s.

"There's 6 steps at the front door!"

"Look, this lily has 6 petals!"

RM: They can even count unlike things and shout, "There are 6 articles in the lost property box," but how else can I help?"

Teacher: Well Rocky, you can send me down some images from my serialized number story. The children take these impactful (and essentially true) imaginations into a deeper level of the soul than mere conscious description – to a dream reality, in many ways higher than that of everyday awakens. They become imbued with the profound and eternal Mystery of Nineness!

For instance, my story travelers might have, after passing through the 8-roomed Conduct House yesterday, arrived at a path with 9 difficult stages to the top of the mountain. Of course the story must contain magic because these 7-year-olds *are* little 'Atlanteans'.

RM: Speaking of magic, I know another way I can help. The night before, I can bring some special number gift into the classroom. You might be going to teach 6 next day so I will then

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secrete a *piece of golden honeycomb* behind the flower vase. Honeycomb has 6-fold or hexagonal wax cells. This can then be something that they have to find in the course of the morning and *eat!* This will surely impress sixness into the soul! They will ask, “how did it get there?” Perhaps the children will say to an equally surprised and delighted teacher, “I suppose Rock Milestone brought it I during the night.”

Teacher: That’s a good one Ricky! Every teacher of small children should have a supersensible teacher’s-aid like you. Mind you, it must always be individualized, like you, not just ‘the number fairy’. It should be the Being of distinct character and appearance even if we never quite see it! The imagination of the child does thrive, vividly and with great clarity, if the teacher supplies the color-rich image that is – and the *name*.

RM: Now, we’ve drawn from the past to build a foundation for our present number understanding – what about the future?

Teacher: Ah, beyond the number 12, the number of Now, there is 13 – the number of the future. It is not advisable to touch it in the same detailed way as the numbers 1 to 12 – or indeed include it in our many counting exercises (you know, count by 2s, 5s, 10s, - count backwards, count fast). But there must be a foreshadowing of the mysterious 13 – a suggestion that this is a *future* Mystery – a mere glimpse of the next stage of our long and winding number-awareness road.

RM: Well my friend, are you ready to go down and teach your Counting Main Lesson? Remember, I’ll be with you always...