

Basic practices of Multisensory Structured Language Math (MSL Math)

- Multisensory:
“Make it, draw it, write it.”
- Teach the language of math.
- Structured language.
- Student makes a math manual
- Make rule memorable.
- Keep it simple: use simple calculations for new concepts

- Never teach a concept with a problem you haven't already solved.
- Instruct explicitly (tiny steps)
- Use graphic organizers
- Coding: Use color, parentheses & acronyms to track processes
- Build on familiar concepts

Sources and Resources

Marilyn Zecher. Multisensory Math <http://multisensorymath.com/> Youtube: http://www.youtube.com/channel/UCesc-68xTXm_iO6fVI_YWwQ

ASDEC: Atlantic Seaboard Dyslexia Education Center. Multisensory math course distance learning: http://asdec.org/multisensory_math_1_distance
Youtube: <http://www.youtube.com/user/ASDECorg>

Christopher Woodin, teacher at Landmark School in Massachusetts. **New book:** *Multiplication and Division Facts for the Whole-to-Part, Visual Learner*
<http://www.landmarkschool.org/resources/woodinmath>
Youtube: <http://www.youtube.com/user/woodinmath>
<http://www.woodinmath.com>

Harold Jacobs, *Elementary Algebra*. Freeman.

Mark Driscoll, *Fostering Algebraic Thinking: A Guide for Teaching Grades 6-10*.

Denise Gaskins, *Let's Play Math*, and other books, and DeniseGaskins.com

Caution: Preview all videos before setting your child on YouTube. Monitor ads:

JustMathTutoring: www.PatrickJMT.com

& Youtube: <http://www.youtube.com/user/patrickJMT?feature=mhee>

Wayne Loutet (on Youtube as Minkusbc) e.g. “Factoring Hard Trinomials”

Math Mnemonics

Quadratic Formula

For $ax^2 + bx + c = 0$, the value of x is:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

To the tune of “Pop Goes the Weasel”

*X is equal to negative b
plus or minus the square root
of b squared minus 4ac
ALL over 2a*

For multiplying integers:

*Same sign, positive;
Different sign, negative!*

Averages:

*Hey, diddle diddle,
the median's the middle.
You add, then divide for the mean.
The mode is the one you see the most.
And the range is the difference between.*

Know these oldies?

*SohCahToa!
Even adders can multiply on a log table.
(E.g., $\log 3 + \log 4 = \log 12$)*

Know more? Send them to Kathy.

To solve simple linear equations with hands-on techniques, see “Bean algebra” on my blog at LearnDifferently.com

Hands-On methods to teach different functions: e.g. Distance/Rate/Time equations.

1) Start with simple functions: horse race/chase example.

First, let $f(x) = 2x$

So $y = 2(x)$

Now try: $f(x) = 5x$

so that $y = 5(x)$

x	y

x	Y

Build, draw (graph).

Graph to represent both.

Then write equations. Horses meet when position are equal.

Then add a lead for the slower horse, e.g., $f(x) = 2x + 12$. Graph.

Building other classes of word problems:

2) Cars going in opposite directions: e.g. $20x + 50x = 70$ miles

3) Collision course:

4) There and back again problems: into and against a current.