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
Youtbe: [http://www.youtube.com/channel/UCesc-68xTXm_i06fVI_YWwQ]

ASDEC: Atlantic Seaboard Dyslexia Education Center. Multisensory math course distance learning: [http://asdec.org/multisensory_math_1_distance]
Youtbe: [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]
Youtbe: [http://www.youtube.com/user/woodinmath]
[http://www.woodinmath.com]

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](http://www.PatrickJMT.com)
- & Youtbe: [http://www.youtube.com/user/patrickJMT?feature=mhee](http://www.youtube.com/user/patrickJMT?feature=mhee)

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

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**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”

\[
X \text{ is equal to negative } b \\
+ \text{ or minus the square root} \\
of \ b \text{ squared minus } 4ac \\
\text{ALL over } 2a
\]

**For multiplying integers:**
Same sign, positive; 
Different sign, negative!

**Averages:**

\[
\text{Hey, diddle diddle,} \\
\text{the median’s the middle.} \\
\text{You add, then divide for the mean.} \\
\text{The mode is the one you see the most.} \\
\text{And the range is the difference between.}
\]

**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.**

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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 $y = 5(x)$

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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.